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NO REASON YET TO BE DISCOURAGED.

THE recent success of the rubber planters of Ceylon in marketing the product of their cultivated *Hevea* trees, at the highest prices on record for crude rubber of any kind, seems to have had a disquieting effect upon some of the planters of *Castilloa* in Mexico. At least they are wondering whether they have not made a mistake in planting *Castilloa*, when perhaps by cultivating another species the same investment and the same amount of labor might bring larger returns. Until the favorable results in the Far East were reported, the rubber planters in Mexico were not only satisfied with their progress and prospects, but they were enthusiastic. It remains to be seen whether they should become any less so.

In the first place, it is not certain that the *Hevea* species, the rubber of Pará, are as well adopted to Mexico as to Ceylon and the Malay States. They may yet prove to be—but that is another matter. But Mexico is the home of *Castilloa*, the source of the first rubber of which any written record exists. And it yields a good rubber, a material for which the industry affords a certain and permanent demand. The product of *Castilloa*, as now marketed, is worth less commercially than *Hevea* rubber. So is silver worth less by weight than gold, but this fact neither discourages silver mining nor limits the use of the cheaper metal in the arts. The question is not whether the rubber grown in Ceylon will sell for more than the Mexican product, but whether the Mexican plantations now under way will yield fair returns on the capital invested.

Nobody knows what Mexican rubber, prepared under intelligent supervision, is going to bring, as compared with other rubbers. We know what manufacturers are paying for the stuff which the Mexican Indians carry in dribblets to Tuxtepec and Vera Cruz and Tampico, and which is shipped thence ungraded to New York. But we do not understand that any planters are contemplating the shipment of rubber so prepared. What rubber really costs at the factory is not the price paid to the importer, but it is the cost of the rubber after it has been cleaned and dried.

Thus Pará rubber, imported at \$1 a pound, with 15 per cent. of shrinkage in cleaning, really costs the manufacturer \$1.17½. At the same time Mexican rubber, imported at only 75 cents, with 30 per cent. shrinkage, really costs at the factory \$1.07 a pound. The chief explanation of the high prices obtained by the Ceylon planters is that they don't ship dirt to market; the percentage of shrinkage in their product is almost nil. Hence when some Ceylon rubber sold recently in London at \$1.29½ per pound, while Central American rubber brought only 81 cents, this difference alone formed no reason for discouraging the planters of *Castilloa*, which yields the Central sorts. The latter rubber might have brought \$1 or more, if prepared as carefully as the Ceylon rubber.

It is not meant here that, under any method of treatment now understood, rubber absolutely equal to "Para" can be prepared from *Castilloa*; the rubbers are characteristically unlike in important respects. But in comparing the selling prices of rubber, consideration should be given to

the causes for the existing difference in results obtained, not the least of which is due to the degree of care exercised in preparing rubber for market.

It appears that not all of the rubber planters of the Far East are wholly satisfied with their prospects. At least some of them are heard from now and then who fear that somebody else is likely to do better than they are doing. Some of them, for instance, feel that the *Castilloa* will prove a more prolific producer of rubber than the *Hevea*, and therefore more profitable. Some such complaints have led *The Straits Times*, published at Singapore, to assert that the planters have no cause for worry, "for there can be no doubt that they have a wonderful market waiting for all the rubber of any kind that they can produce within this generation."

WHAT BECAME OF THE MONEY?

A LEGAL gentleman who introduced himself at the offices of THE INDIA RUBBER WORLD last September as counsel for Mr. John Cudahy, president of the "Para Rubber Plantation Co", spent two hours in making an argument—for which he deserved to be well compensated by his client—against the publication of articles in our pages showing that to be a fraudulent concern. No matter what might have been done in the past by irresponsible agents of the company, the learned counsel pleaded, the standing of Mr. Cudahy, its president, was such that it should be a "personal guaranty" to every stockholder of the company that it would carry out "every obligation that it has made or shall make." The company was preparing "to broaden its character and enlarge its facilities for useful labor." And the shareholders were assured, in behalf of Mr. Cudahy, of "the direct benefit of his wide experience and great executive ability."

What happened later was that the company took a new name and adopted new tactics for selling its shares. It also stopped paying dividends. In time Mr. Cudahy quietly retired from the company. But what became of his "personal guaranty," and who got the benefit of his "great executive ability?" Also, who got the investors' money?

THE PRESENT PRICES OF COTTON—a cause of no small concern to the rubber trade—if long continued, must inevitably lead to production on an increased scale. But where? It is not probable that the planters of the southern United States will be stimulated by the prevailing prices to double their acreage under cultivation. So long as increased planting, involving an increase of labor, renders liable a fall in prices and a decline in the rate of profit, a large additional production is not reasonably to be looked for. Why should they grow two bales of cotton for no larger net profit than one bale now brings, simply because the rest of the world wants cheaper cotton goods? But the American planter cannot always control the situation; more cotton is consumed abroad than in the United States, and an interest in cotton culture is growing in many directions. And because the English failed, in spite of persistent efforts half a century ago, to make India the source of her cotton supplies, it does not follow that cotton cannot be

grown outside of this country. The fact is that already more than a third of the cotton used is grown abroad, and it may be that in time the only hope of our planters will be in learning how to produce cotton more cheaply than somebody else is doing it.

AND NOW COMES PERU WITH A CLAIM to a goodly slice of the rich rubber territory included in what is known as the Acre district and lately relinquished by Bolivia to Brazil. The basis of Peru's claim is an ancient boundary treaty, but like most ancient treaties that document is capable of two interpretations, and Brazil can support her reading of the treaty with the fact of present actual possession—a very strong point, as against a weaker republic—and the further fact that much of the territory to which Peru makes claim has no outlet except through Brazilian waters. We know what happened when the Bolivian Syndicate planned to operate on the Acre and found the Brazilian waterways closed to it. The new complication will tend to interfere with rubber production, with the effect of helping to keep up rubber prices, and this will help the Brazilian treasuries, which levy a generous *ad valorem* tax on rubber exports. Brazil's revenues do not suffer from short rubber crops; lessened production means higher prices, and consequent higher export duties per pound.

THE ENORMOUS OUTPUT OF RUBBER FROM AFRICA during the past dozen years was due to the work accomplished by the late Sir Henry M. Stanley, in a larger degree than any other development of rubber production was ever due to the work of a single individual. Stanley not only made the "dark continent" known to the civilized world, but he planned the utilization on a broad scale of the resources of Central Africa, and what is more, he gave practical effect to his own plans. First to realize the importance of the "reservoir of rubber" discovered by him in the Congo basin, he pointed out how, by the building of a railway around the obstructions in the Congo river and the establishment of trading stations in the interior, the rubber could be made available, and its collection a profitable opportunity for employing capital. And he lived to see the full vindication of his views, visionary as they seemed to the world at first.

THE PROMINENT RUBBER MANUFACTURER who has thoroughly tested the new "Colorado rubber" and placed large orders for the material still declines to have his identity revealed. Every manufacturer thus far suspected has positively refused to "acknowledge the corn." Perhaps, after all, there is no such man, and that we have been misled by the irresponsible newspaper reporters. Indeed, it is possible that the confidence of the Colorado people in their native rubber has been maintained through their care not to give the manufacturers of rubber goods an opportunity to express a possibly unfavorable opinion of it.

WE ARE LEARNING GRADUALLY why crude rubber is so high priced. A newspaper in Utah is informed by Mr. John Beck that "last year 5,000,000 pounds were used for tennis balls alone." Now this is a fact not known before by anybody but Mr. Beck. If everybody having private knowledge of what becomes of our rubber imports were to speak out at once, the situation would become much clearer.

A MORE INFORMING REPORT than that of President Colt, on another page, has not been issued by any corporation in this country, to our knowledge.

TO PRESIDENT PORFIRIO DIAZ.

A LETTER, of which the following is a copy, has been addressed to President Porfirio Diaz, of Mexico, and his cabinet, in view of their well known interest in the material development of that progressive republic. The suggestion does not in any sense come from the planters of rubber in Mexico, very many of whom are enthusiastic believers in the ultimate success of their plans, but none the less it is believed that the offer of a bounty as suggested would give a healthful stimulus to the planting interest. The letter reads:

DEAR SIR: In the past five years there has been invested in plantations in Mexico nearly \$20,000,000 of American money, chiefly to grow India-rubber. Investors are now beginning to wish to see the fruits of their faith and labor. At this time, when business is somewhat depressed, and many are taking counsel of their fears, a very little help from your government would put the rubber planting proposition many years ahead. Personally, I am confident that eventually one of the most valuable of the exports of your country will be India-rubber from cultivated trees. I would, therefore, respectfully make the following suggestion:

That your government grant a bounty of five cents a pound for India-rubber from cultivated trees. The rubber should be prepared so that it shows not more than 5 per cent. of moisture. It should also be clean, showing not more than 1 per cent. of foreign material of any sort. If the rubber were prepared in the form of small *tortillas* it would be easy of examination, and the government records showing the aggregate production would stimulate the production and give a fresh impulse to an industry that is of vital interest to the whole industrial world.

Respectfully,

HENRY C. PEARSON,
Editor of THE INDIA RUBBER WORLD.

It is respectfully suggested that those planters who regard the proposal with favor assist with their influence, and represent to the Mexican government their reasons for considering its adoption desirable.

ANALYSIS OF GUTTA-PERCHA RESINS.

AT the last regular meeting of the New York section of the Society of Chemical Industry, at the Chemist's Club, on the evening of April 22, the first paper on the program was one on "Resins of Gutta-percha and Allied Gums as a Means of Identification", by Wilton G. Berry, PH. B., of the laboratory connected with the office of the Appraiser of merchandise, United States custom service, New York.

Mr. Berry described his work as an attempt to contribute to the knowledge of Gutta-percha and allied pseudo gums for the purpose of affording a means of identifying and of differentiating them one from the other. The present paper is preliminary to a series of uniform experimental examinations of the resins and hydrocarbons present. He dealt with the comparative quantitative analyses by treatment of the previously dried material with acetone, alcoholic-potash, and petroleum ether, and extraction of the resins in a uniform manner with boiling absolute alcohol, and the separation of the thus extracted resins into their component resins; soluble and insoluble in cold absolute alcohol.

The object was the determination of—

Saponification value,
Acid value,
Ether value,
Iodine value,
Acetyl value,
Methyl value,
Melting point, solubility, etc.,

—of the individual resins, hoping thus to establish a table of

values whereby the resins of any given specimen may be identified and the identity of the parent gum thus established. The gums thus far experimented on are a few specimens each of Gutta-percha, Chicle, Almeidaia, Tuno, Jelutong (Pontianak), Balata, and Payena sp.

It has been found thus far that the resins from several specimens of the same gum have practically the same constants and characteristics, and that the resins from the different species of gums have different constants and characteristics—in some widely different, and in the cases of the gums above cited sufficiently differing to make identification of their parent gum an easy matter. From the gums so far examined it is hoped to establish the fact that the combined evidence of the constants and characteristics of the resins, together with the character of the accompanying hydrocarbons, will show that each species of gum varies from each other sufficiently to make differentiation of unnamed specimens complete, and to establish the fact that every specimen of the same species of gum is alike in the characteristics quoted.

RÉSUMÉ OF ANALYTICAL WORK.

Gutta-percha.—Resins soft, pasty, yellow.
Chicle.—Resins hard, grayish yellow, brittle.
Tuno.—Resins hard, dark yellow, brittle.
Almeidaia.—Resins hard, brittle, yellow.
Jelutong.—Resins soft, brittle, yellow.
Balata.—Resins turbid liquid, yellow.
Payena.—Resins similar to Chicle resins.

	Saponification value.	Acid value.
* Gutta-percha resins.....	78.5	5
* Gutta-percha (albane).....	83.5	—
* Gutta-percha (fluavil).....	71.45	—
* Chicle resins.....	103.1	Trace
Chicle (resin A).....	129.0	Trace
Chicle (resin B).....	100.8	Trace
† Tuno resins.....	77.3	5.6
† Jelutong.....	77.5	Trace
Almeidaia.....	50.4	11.0
Balata.....	69.2	Trace
† Payena sp.....	103.7	Trace

* Average of 4 specimens. † Average of 2 specimens.

While the saponification values of Gutta-percha, Tuno, and Jelutong resins respectively are almost identical, their separation into component resins corresponding to albane and fluavil of Gutta-percha gives entirely different results from the latter and from each other. The resins of Chicle and Payena differ as widely and the accompanying hydrocarbons are fundamentally different.

REPORT OF A GERMAN CABLE WORKS.

THE report for the sixth business year, 1903, of the Land- und Seekabelwerke Actiengesellschaft (Cologne) shows results beyond anticipations. The sales were the largest on record. The fusion of certain electrical concerns, who had been buyers of cable goods, with large manufacturing companies, left the firms who had been supplying the former in a position of having to look for new business in new fields, with the result of very keen competition in prices. The German cable companies are much hampered by the prohibitive tariff of other countries having cable factories of their own. The net earnings of the company for 1903 were 328,106 marks, enabling them, after making liberal addition to the various funds, and carrying over a balance of 41,803 marks, to declare a dividend of 5 per cent. on the paid up capital of 5,250,000 marks. The transactions of the company's factory at St. Petersburg increased, but it was deemed advisable to write off 70,000 marks to cover the deficit, which is less than the preceding year.

The works of this company formerly were the cable department of Franz Clouth—Rheinische Gummiwaaren-Fabrik.

VIEWS OF AN AMAZON MERCHANT.

THE output of rubber from the Amazon river thus far this season has shown an increase over the corresponding months of any preceding year, though it does not follow that, at the close of the season, on June 30, a larger output for the year will be shown. According to a rubber merchant from the Amazon, the annual rise in the rivers made an earlier opening of the navigable season than usual, with the result that rubber began to arrive in the markets from certain streams earlier than in some former years. Besides, there was a higher stage of water than in some years, which was further favorable to shipping interests. The amount of rubber yet to arrive, at any date in the season, is always an unknown quantity at Pará and Manáos, so that the end of the season must arrive before the total production is known. The impression prevails, however, in view of the men and provisions sent upstream this season, that the total "crop" will be larger than in any past year.

[Since this article was written, it appears that arrivals at Pará have already been larger than for any whole year in the past.—THE EDITOR.]

The establishment of peace in the hitherto disputed region of the Acre, while followed of course by a larger production of rubber than during the same months of last season, has not yet resulted in as large arrivals from that source as in former years. No doubt is felt, however, that ultimately the Acre output will be very largely increased. Meanwhile trouble is brewing in another quarter—the upper Juruá river region, to which Peru now lays claim—with the result that smaller shipments of rubber have been made from there. Against this shortage, however, may be considered the somewhat larger arrivals of fine rubber from Iquitos, due, as is supposed, to a certain quantity of rubber which otherwise would find its way down the Juruá, being carried through other channels to the upper Amazon, and thence past Iquitos. These suggestions are offered by the rubber merchant above mentioned.

"When there is a heavy advance in crude rubber prices, who pockets the additional cost?" the Amazon merchant was asked by an INDIA RUBBER WORLD representative.

"The owners of the *seringuals* get it—the first handlers of the rubber," he replied. "Our house are very large buyers of rubber, but only on a commission basis. We never engage in any speculation, and the price of rubber is not a matter of concern to us. The rate of commission is the same, whether the market is high or low, though of course the higher the market, the larger the volume of commissions on a given transaction. Prices are made by supply and demand; if manufacturers are eager for rubber, when stocks are small, prices go up, just as they go down when the conditions are reversed. But when prices do go up, it means more money for the man in charge of gathering rubber and shipping it to the prime markets, as Manáos and Pará."

"What is the effect of higher prices in stimulating the production of rubber?"

"It has an immediate effect if prices happen to be high at the beginning of a season, for then the owners of *seringuals*, the houses which advance supplies, and everybody else concerned in getting out rubber, plan for larger operations, but after the arrangements for the season have been made, it is too late for any advance in rubber prices to have much effect upon production. Higher prices at any time, however, will have a certain effect, since the conditions of the market become known even in the remoter districts. The principal reliance for rubber gathering is on the Cearenses, who leave their homes annually and go up the Amazon to the rubber fields. The most usual

method is for these men to sell the rubber which they gather to the owner of the *seringual* who employs them, and whatever is coming to them after paying for their transportation and subsistence they are able to take home to their families. Naturally they want to make as much as possible, and high prices will induce them to work in weather that otherwise would deter them from work. For instance, in rainy weather the rubber sap may become so saturated with water that it cannot be smoked, yielding only *sernamby* (coarse rubber), and unless prices are very favorable the *seringuiros* may prefer to do nothing rather than work under such conditions."

"What is the outlook for the future rubber output in the Amazon valley?"

"It is largely a question of labor. There is no shortage of rubber sources to be feared, but the supply of rubber gatherers is limited, and thus far no alien labor has proved successful. The Cearenses for the most part undertake the risk of going up the Amazon only on account of the frequent droughts in their own district which prevent them from farming. A good year in Ceará would lessen very materially the supply of rubber gatherers from that region. Every year, however, some of the Cearenses who go up the rivers settle there, thus adding to a permanent force of trained rubber workers, which has a favorable effect upon the rubber gathering industry."

NEW TRADE PUBLICATIONS.

UNDER date of June 1 W. D. ALLEN MANUFACTURING Co. (Chicago) issue their Catalogue No. 21 of Belting, Rubber Goods, Mill and General Supplies. It is not only the largest catalogue in this field that has been issued by any house, but comprises a more extensive line of goods—all suitably described and illustrated, and prices given. The Rubber Goods Department, which is a prominent feature, embraces belting, hose for all purposes, packing, gaskets, valves, mats and matting. In the same connection are listed a great variety of hose couplings, nozzles, lawn sprinklers, and the like. It would seem that this book might serve as a complete buyer's directory for any mill supply house. [6¼" × 9¼". 512 pages.]

G. & J. TIRE CO., (Indianapolis, Indiana) issue a booklet of half tones illustrating the tour of Mr. W. A. De Gress, who rode "G. & J." tires to the top of Popocatepetl—claimed to be the highest altitude to which a bicycle has been ridden. [4¾" × 10". 16 pages.]—An attractive new poster has also been received from the company.

GRAND RAPIDS FELT BOOT CO. (Grand Rapids, Michigan) issue their yearly catalogue and price list of Rubber Boots and Shoes, for 1904. A full line of goods is embraced, in first and second quality brands, the latter being stamped "Wolverine Rubber Co." [3½" × 6". 40 pages.]

ALSO RECEIVED.

BOSTON Woven Hose and Rubber Co., Boston=Boston Spray Nozzle. 8 pages.

The Dunlop Tire Co., Limited, Toronto, Canada=Pad Horsology. [Relates to Horseshoe Pads] 16 pages.

The "Stitch-in-Time" Vulcanizer Co., Topeka, Kansas="Stitch-in-Time" Vulcanizer [for tire repairs]. 4 pages.

Marsh Rubber Finger Pad Co., Manchester, New Hampshire=Marsh's Hygienic Finger Pad. 8 pages.

Charles Nuhring, No. 907 Walnut street, Cincinnati, Ohio=Interior Fire Hose Appliances [fire hose racks]. 26 pages.

Lamb & Tilden, Washington, D. C.=All Rubber Stamps. 8 pages.

Wirt & Knox Manufacturing Co., Philadelphia=Catalogue for 1904. Wirt's Patent Hose Carts, Reels, and Racks. 24 pages.

RUBBER PLANTING IN CEYLON AND THE MALAY STATES.

As Seen by The Editor of "The India Rubber World."

THIRD LETTER.

Tapping Rubber Trees at Peradeniya Garden.—Visit to the New Experiment Station.—Seventy five year old *Ficus Elastica*.—The Stump Speech.—Kandy.—Temple of the Sacred Tooth.—Hotel Tips.—On the Way to Kalatura.—Early Tea at the "Rest House."—Mr. Harrison and Culloden Estate.

SPEAKING again of canker, and the absence of the disease on the South American *Hevea* trees, Mr. Carruthers said that it was quite possible that individual trees there might have been attacked by it, but as the trees are wild, and grow singly, the disease, after exhausting its victim, would probably die out, as it would have no other *Hevea* near enough to reach. This of course led up to what has been proved since planting of any sort has been on any considerable scale. That is the occurrence of diseases and insects unknown before, but which found in great plantings of a single kind the most favorable field for rapid growth and reproduction.

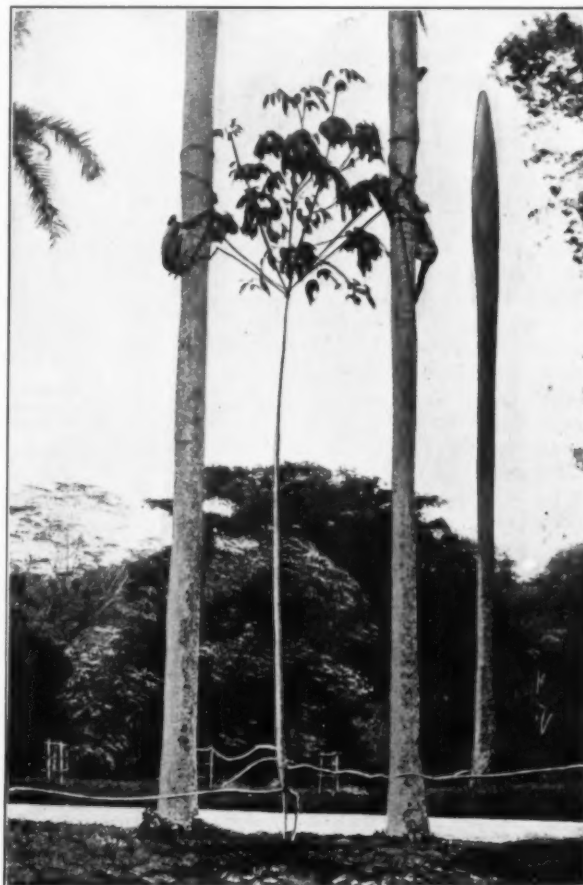


"HEVEA BRASILIENSIS."

[Leaves and nuts on greatly reduced scale.]

It was while discussing these subjects that we visited the administration buildings of the gardens. These are neat and business like, and with their tropical setting form a very pretty picture. We visited the museum, where sections of the woods in which the island is very rich are displayed; while seeds, fruits, and everything pertaining to the life of the plant growths is carefully prepared and preserved. He also showed me the offices of Director Willis, his own laboratory—where some very interesting experiments in determining the vitality of the *Hevea* nut were then being carried on—introduced me to Mr. E. E. Green, F.E.S., the government entomologist, and then led me to some of the 15 year old Pará trees, which we tapped. It was really too near the middle of the day for the latex to do more than ooze out very slowly. The tool used is like that shown in the illustration, and is so small that at first it would seem to be of little use, particularly when one has in

mind *machete* work. It only needed a very few cuts with it, however, to convince me of its usefulness; indeed, for the *Hevea* it is far superior to any form of *machete* that I have seen. The incision is really a drawing cut that takes out a strip of bark, laying the cambium bare. The cut is clean, small, and may be made by the most unskilful coolie with but little chance of injuring the tree. I had with me a small two bladed tapping axe invented by a friend in the United States, which I had brought along to test. We all tried it, but the simple little tool far outdistanced it. Leaving the collecting and straining of the latex to the coolies, Mr. Carruthers took me to his bungalow for breakfast, which meal occurs at noon, and there discussed various phases of rubber planting. In referring to the government plantations of *Hevea*, he said that there were about 150 acres now planted, and it had not been decided yet just how they would be administered. According to his figuring, these plantings cost about 1200 rupees [= \$389.32] an acre when matured. If they are to be leased under proper restrictions, the opinion seemed to be that the government should not reap more than 5 per cent. interest on its venture. But



"HEVEA" RUBBER TREE.

[Suspended, to show extensive lateral root growth.]



SATINWOOD BRIDGE, PERADENIYA.

most of the experts seemed to think that it would be better for the government to sell the plantations as near cost as possible. For further information he referred me to Mr. F. Lewis, the assistant conservator of forests, Colombo.

The following morning we crossed the Mahaweli river, a deep swift muddy stream flowing by the gardens, to visit the great experiment stations that are under the charge of Mr. Herbert Wright, A. R. C. S. There is no bridge, so one is ferried across in a very narrow wooden dugout, with the usual outrigger one side to prevent upsetting. This experiment garden is new, and contains about 1200 acres I believe, and takes in the native villages of Gangaruwa and Yatiyalagala.

Mr. Wright kindly piloted me over the sections devoted to rubber planting. Just to see what the *Castilloa* and the Ceara rubber will do in that climate under varying conditions, he has many different plots, both in the shade and in the open. Perhaps the most interesting is the planting the former where it is shaded by cocoanut trees. All of these rubber plots were small of course, and the trees very young, so that at the present it is impossible to say what results will be attained.

As we walked about the place it occurred to me to learn just how hot it was, and I found that it was 127° F. in the sun, and the guess was that it was about 85° in the shade. As we were in the sun most of the time, we had no reason to feel a chill.

In the afternoon, Director Willis having returned, we had a look at the *Ficus elastica* trees planted some 75 years ago. They are huge growths, and unlike the Straits trees of the same name, do not send down aerial roots, but instead form great root buttresses. They produce little if any latex, as my own tapping experiments abundantly proved. Further than that, they are dying, so that every now and then it becomes necessary to fell

one of them, for if it unexpectedly dropped its 150 feet of length across the carriage road, a serious accident might result.

Speaking of the *Hevea* plantings in the island, Mr. Willis said that at that time there were about 11,000 acres, and as the annual production of seeds was about 3,000,000, he thought that the planting increase would be about 5000 acres annually. He said that the *Hevea* could undoubtedly be planted in sheltered valleys, up to 4000 feet altitude. In many situations the trees would mature more slowly, its growth depending upon the rainfall, and the richness of the soil. At Peradeniya those that had matured more slowly had produced latex as good and abundant as had the others. The *Castilloa* had proved itself more tender than he could wish, and the general sentiment among the planters was that it would not be as profitable a venture. Speaking of rainfall at Peradeniya, they could always reckon upon 90 inches quite well distributed. Labor of course is very cheap, 10 cents a day being the regular wage, shelter being furnished, but not food or clothing.

As an incident to this visit, I walked over the gardens, by well kept roads, shaded by magnificent trees, and visited the "hot house" for orchids. As there is also a tea factory near the gardens, Mr. Willis was good enough to take me through it, and show me every process, the plucking, withering, rolling,

drying, sorting, and packing, all of which was most interesting. After taking leave of Director Willis and his good wife and Mr. and Mrs. Carruthers, and all who had made my stay so pleasant, I took the train for Kandy, four miles away, where I planned to spend the afternoon with a steamer friend, and do a bit of sightseeing. As I waited for the train I was conscious of careful inspection on the part of a man near me. He was a nice, wellfed, self satisfied old gentleman, who sat by my side in one of the three cane seated chairs that stand on the depot platform for the use of the white patrons of the railroad.



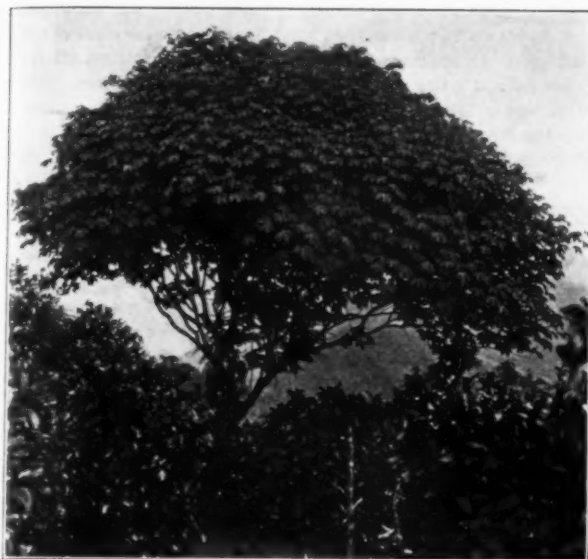
"HEVEA" AT EDANGODA.

[Government Forest Department plantation, 8 years old. Mr. F. Lewis, assistant conservator of forests.]



RUBBER TREES KILLED BY FLOOD.

[Part of a Forest Department *Hevea* plantation in a valley subject to flood, showing the way in which the flooded trees died off. 1898.]



CEARA RUBBER TREE.
[At Polgahawella; planted about 1886.]

"You couldn't have cane bottomed chairs in a railway station in America, now, could you?" said he to me.

"Why not?" I asked, much surprised.

"On account of the extraordinary habit you Americans have of standing on chairs, and making stump speeches," he responded with conviction.

That he was in dead earnest, and that no denial of mine would affect his belief, one look at his countenance showed. It seemed a pity that he should not add to his store of knowledge along that line, so I said carelessly:

"That of course used to be so a few years ago. Indeed, it was a great nuisance. In public and in private, at the theater, at concerts, at receptions, even in church, stump speakers would suddenly mount chairs and harangue all in sight. It was a disease, you know, caused by a germ that was bred in cotton fields of New Hampshire."

"Fancy!" gasped my listener.

"Oh yes, pure and simple," I continued (referring to his exclamation). "The germ is known as the *Septennis vociferens*, and I may say modestly that it was due to a little invention of my own that it is no longer feared in America."

"How interesting! And pray what was your invention?"

"Is it possible that you never heard of Pearson's Patent Orator Discourager?" I asked with pained surprise. "It sold very well; indeed, I made a comfortable sum out of it. Quite simple it was, but it did the work. It was, in a word, a semi-spherical rubber spring, so placed beneath the chair bottom that when one tried to step there, he was instantly thrown over backwards, the shock killing the germ, but rarely injuring the man. If, however, one sat in the chair, the spring had no effect."

"Very ingenious! A most excellent device! I congratulate you!" exclaimed my listener, warmly. "Of course it was only useful in your own country."

"I was coming to that. Having sold all I can in America, I am now about to prepare a foreign market for it."

"But—but no one makes stump speeches *here*, for instance!" he said.

"Ah, that's just it. They don't now, but they will. Our

laboratory is working night and day producing healthy cultures of the germ. I am traveling around the world planting them everywhere. They are invisible practically. The back of your chair this moment is covered with them where my hand rested before you came along. Here is my train. Good bye."

As the train left the station, a once peaceful and self satisfied encyclopedia of American habits, with red face and anxious mien, was standing far away from the three chairs, and making a stump speech to a large crowd of bewildered coolies. Those germs worked so quickly on him that I almost believed in their existence.

A few minutes later I was in Kandy, and comfortably established at the Queen's Hotel.

The city of Kandy (Hill town) is noted chiefly as having been the seat of the Kandyan kings, the possessor of the temple of the Sacred Tooth, and at the present time for having only one hotel, "The Queen's," where a German tourist finds good entertainment for about \$2 a day, while an American or an Englishman must pay \$5. The city lies in a lovely valley, and is built around an artificial lake, on an island in the middle of which once stood the royal harem. The walks and drives around the city, over beautifully kept roads that ascend with only the slightest grades, are simply ideal.

As a matter of duty I visited the Buddhist temple of the Sacred Tooth during service. It was after nightfall, and the beating of the tom toms and noise of conches was almost deafening. I secured a guide at the main entrance, or rather he secured me, and, accompanied by two self elected explainers, and a boy carrying a lighted candle, we went from one shrine to another, giving up contributions of small change before each, jostled by crowding worshippers laden with fruit and flowers.



PORTION OF OLD "HEVEA" TREE.

[Showing proper healing of wounds that do not pass through the cambium, and injury caused by those that go too deep. Wounds made by chisel and mallet. Heneratgoda Garden; tree 13 years old.]

Of the things that linger in my memory, the library of Cingalese sacred literature is most prominent. There are hundreds of volumes, the leaves of the books being strips of fiber from the Tallipot palm, the letters being etched into the surface and then filled with ink. They are beautifully bound in gold and silver, and ornamented with jewels. There was also an image of the god, three feet high, of solid gold, as well as one carved out of a single block of crystal some 10 inches in height. Then there was copper, ivory, silver, and gold carving and filagree work that would look just as well in America, but there were too many around. I did not see the Sacred Tooth, which is carefully guarded, and needs an order from the governor before one is permitted to view it. The true believers are sure that it once was a part of Buddha's dental equipment, while the scientists say it belonged to a crocodile.

I didn't tarry long in Kandy, but took the morning train back to Colombo, as I now had more definite knowledge of the typical plantations, how to reach them, as well as letters to the men in charge. Perhaps as a hint to others I should say that when I left the hotel in Kandy after paying my bill, the following servants put in a claim for tips: Bedroom man, bath man, head porter, waiter, doorman, gharri driver, the porter who puts your bag into the train, and any other native who can catch your eye.

It was early in the morning when the writer and Miguel de Silva, the Singalese plant collector at Peradeniya, who was loaned me by Director Willis, entered rickshaws and started for Slave Island station, on our way to Kalutara. For some distance the railroad follows the sea coast, disclosing the beautiful villas of Europeans, native fishing villages, and the blue sea itself. According to custom, Miguel rode with the natives, and I, in the car reserved for the whites, was not able to question him as I had planned. A friendly planter, however, did explain that the land over which we were passing was very valuable, through the palms which grew upon it that were used in the production of the native liquor, "arrak." He said also that the ownership of these palms was most complex, one tree often being owned jointly by as many as five natives. I had noticed that many of them had a wattle of reeds braided about the stem some 6 feet from the ground, and was amused to learn that this was to guard against thieves. It seems that the night climber cannot surmount this apparently flimsy barrier, nor remove it without making such a crackling that the owner is awakened sufficiently to remonstrate—usually with a knife.

Arriving at Kalutara, Miguel appeared, and with a commanding gesture secured a coolie to carry my bag, and we wended our way to the Rest House for breakfast. As the day was already a scorcher, its broad verandas, square rooms, and cement floors gave one an impression of coolness which was truly grateful. Here I had "early tea," consisting of "papaya" (the luscious fruit of the paw paw tree), ham and eggs, bread, butter, and coffee—an excellent meal, the whole charge for which was I believe, 1 rupee.

After breakfast (I would say "early tea") we secured a gharri, drawn by a horse that must have been a survival of the Portuguese occupation, so ancient was he, and started off for Tabewana, 5 miles away, where was another rest house. One advantage of the horse over the automobile, and the slow horse over the fast one, is that it allows one to take in the beauties of the scenery to a greater degree. The languid creature to which I had intrusted myself gave me ample chance to enjoy the cinnamon groves, the cocoanut plantations, and the paddy fields. Besides this, I was interested in the natives, and when we meandered slowly through a village with the houses close to the road, and smelling like a fish glue factory that had soured over night, I simply held my nose, but kept my eyes wide open—and saw much that is not set down here. We tarried at the Rest House at Tabewana only long enough for noon breakfast and then pushed on for Culloden, which, by the way, is in Neboda, or at least that is the nearest postoffice. The roads were good, as all in Ceylon are, and there are some 4000 miles of them, but the scenery began to show a decided change. The country became more hilly, great masses of black gneiss showing out through the luxuriant foliage. Finally, we ascended a

long hill, turned into a tea plantation and, leaving the gharri, followed a winding pathway to a pretty bungalow situated where it commanded a view of much of the surrounding country and even gave a glimpse of the sea in the far distance. Here I was met and welcomed by Mr. R. W. Harrison, and a neighbor, Mr. J. T. Withers, of Clontarf.

It was really too hot just then to start out to view the rubber, so we sat in huge planters' chairs that have broad shelf like arms that extend far out in front, and arranged so that the lounge can have his feet as high as his head, and talked planting experiences.

Culloden is, of course, primarily a tea estate, beautifully

laid out with fine gravel roads all over it, and not a weed to be seen at any time in all of its broad acres. Indeed, the weeding of crops in Ceylon has been reduced to an exact science. It is all done by contract, and costs thousands of pounds a year, but it effectually stops the danger from fire that an occasional cutting of the weeds invites.

Mr. Harrison, the manager at Culloden, is perhaps the best equipped rubber planter in the island, either from the planting or gathering standpoint. While he is in direct charge of Culloden estate, which will this year produce about 10,500 pounds of Pará rubber, he also has supervision over the following estates: Heatherly, which will produce 3500 pounds; Tudugala, 6000 pounds; Yatupauwa and Edengoda, 5000 pounds. Thus it will be seen that fully one-half of the Ceylon Pará of this year's crop passes through his hands, and in visiting him I was sure to be at the center of the rubber planting interest. It might be well to remember also that this 25,000 pounds annually, with a decided increase each year, comes from about 20,000 trees that on an average are 8 years old.

[TO BE CONTINUED.]



"FICUS BENGALENSIS"—BANYAN TREE.

[In the main street at Kalutara.]

THE INDIA-RUBBER TRADE IN GREAT BRITAIN.

By Our Regular Correspondent.

THE enhanced prices which have been the necessary consequent of the high price of rubber cannot be considered to have had much effect upon the volume of trade. People who want rubber goods buy them even if they grumble at the price. As far as the ordinary trade is concerned the unanimity prevailing amongst producers has made the rise in prices easily accomplished and I understand from the American houses which do business in London that, though they own no allegiance to our association of manufacturers, their prices have been raised to a practically corresponding degree in accordance with instructions from America. Where grumbling is chiefly heard is in the card cloth manufacture, as makers are unable to advance their prices in accord with the price of rubber, there being no effective combination to this end.

RISE IN
PRICES
OF GOODS.

It is understood that the India-Rubber Manufacturers' Association are considering the subject of fire assurance, presumably with the intention of making representations on the subject to the insurance companies. Certainly there is room for some such action, because there is a tendency to overestimate the risks attaching to such insurances. Of course it depends largely on the precise nature of the manufacture carried on, and it is quite antagonistic to the facts to associate the proofing and purely mechanical branches in the same category as regards risk. As far as really disastrous fires are concerned, it would appear that these have in late years been limited to small establishments for the sorting or reclaiming of waste rubber. Your newspaper reporter, however, does not stop to particularize, and fires in such works are duly chronicled in the press as if the unfortunate affair related to a rubber factory of the North British magnitude. That the insurance companies take a strong view of the risks associated with waste rubber dealing and manipulation is clear from the inability of one concern, which was burnt out some months ago, to effect another insurance, though by the state of the books it was quite clear that there had been no inducement whatever to an act of incendiarism. Although the risk where solvents are not used is really but small, it certainly seems to be the fact that waste rubber, especially ground crumb, is apt on occasions to become overheated and may break into spontaneous combustion. My experience shows me that this fact is not sufficiently known to those who deal in such material, and it would be time well spent to take frequent tests with a thermometer to ascertain if the temperature of any body of material is above the average. This sort of testing I may say is regularly carried out on the coal stacks at the British dockyards where spontaneous combustion is always to be apprehended.

FRANZ CLOUTH, in his book on the rubber manufacture, laments the fact that the German pays so much less for his rubber goods than do the Americans, the consequence being that the German manufacturers have to make inferior articles. I have been reminded of this statement more than once lately in connection with the inspection of dressing plant for metal mines. Certain types of vanners, as I believe I have stated on a previous occasion, have their surface composed of India-rubber and a great disparity is noticeable between the quality of the rubber on American

MINING
MACHINERY.

made machines and on those of German make. The machines I compared were not of the same type, but that does not matter; I merely wish to emphasize that with regard to his rubber surface the German uses a highly compounded mixing which in practice cracks and oxidizes very much sooner than the more elastic rubber to be seen on machines of American origin. My strictures are confined to the rubber alone; I am not saying anything about the relative merits of the metal or woodwork. It may be contended that metal mines are often sold up long before the machinery has time to wear out, and that therefore rubber with a long life is not necessary; but arguments of this sort do not invalidate the comparison which I have made between German and American procedure.

THE recent increase in the use of electricity for lighting and haulage purposes in collieries is proving a substantial source of new business to cable manufacturers. Steam haulage from the working faces to the bottom of the shaft is being rapidly replaced by electricity, the current in the great majority of cases being sent down the shaft. The value of the cables required for a single colliery may easily be in the neighborhood of £1500. Different engineers have their own ideas, of course, as to cables, but the paper insulation of the British Insulated and Helsby cables have been adopted most largely, as far as my personal knowledge extends. It is found that the damp atmosphere of the mine acts upon the lead covering, and for this reason, as well as for mechanical protection, the lead is given a protective coating of hemp and iron. Cables such as these have a long life in the mine shaft, really the only source of danger being from an accidental fall of the cage.—Just as rubber strip is used in jointing rubber cables, the Callender company manufacture their "Bitite" strip sold in coils in boxes ready for use by mains engineers. When this is warmed and applied to the Bitite insulated cable, the two may be pressed into a homogeneous mass, the joint being thus made without the use of any solvent, as in the case of rubber. It should be noted that the Bitite insulation though a pitch product is of quite a different nature to the pitch filling up the troughs in which the cables are laid. This latter is ordinary bitumen, as may be coal tar pitch which has not undergone any special process of manufacture. With regard to the supply of bitumen, it has been said that Callender's have a monopoly of the product of the Trinidad lake; it is open to doubt, however, if this is so, and anyhow the discovery in recent years of similar lakes in Venezuela tends to diminish the value of the acquisition. Certainly a good deal of the pitch they use in laying street mains comes from British tar distilleries.

THE subject of the improvement of cotton belting has long been uppermost in the mind of this firm—if a limited company can be said to have a mind. The latest patent 9944 (1903) seems to indicate that a previous process on machinery for which a good deal of money had been spent, has been found inapplicable or inefficient. In the former patent a solution of Gutta-percha was forced into the interstices of the woven belting by means of vacuum plant, while in the new one strands of Gutta-percha or Balata are to be interspersed among the warp or weft threads, the woven belting being afterwards heated and pressed so as to force the melted or softened substance thoroughly

G. BANHAM & CO.,
LIMITED.

through the material to impregnate it. I am unable to speak as to the result of this process at the moment, but hope to be in a position to do so before long.

I DON'T know to what extent the rubber waterproof packing paper has been adopted since its invention, a year or two ago.

WATERPROOF PACKING PAPER.

At any rate it has not done much in replacing the material prepared with a face of pitch, this being very largely used by the Manchester packers of textile goods for ocean transit. With regard to this paper, however, serious trouble has been frequently caused by white goods turning a pink color; it seems difficult to assign the cause of the trouble to the pitch, yet no other solution has been arrived at, and there have been several cases in which damages have been paid by the packers as being responsible for the use of defective paper. Though it is difficult on purely chemical grounds to account for the coloration, yet I believe it is a fact that competition has led to the use of inferior pitch. The pitch originally used was what is known as stearin pitch, a body worth to-day about £10 per ton, and it is said that the discoloration of goods has been caused by the substitution of ordinary coal tar pitch for the better product.

AN influential colonist from British Guiana has recently been interviewed in London at the offices of the *Mining Journal*, and what he says about Balata seems to merit repetition. The present governor he describes as an undeniably clever man, but too

BALATA IN BRITISH GUIANA.

apt to apply legislative theories not adaptable to every new country. Thus the Balata bleeders are only allowed to cut a ring half way round the tree, and they have to leave the other half untouched to allow the sap to rise, and so prevent the tree from being destroyed. The consequence is they only get 5 pounds of Balata from a tree, the same tree not being bled again for five years. The complaint is made that it is not worth while going on an expedition 300 miles into the interior to get merely 5 pounds from each tree. Reference is made to the fact that in adjacent countries the trees are cut down and yield 30 pounds of Balata each. This probably accounts for the export from Venezuela and Dutch Guiana greatly exceeding that from British Guiana, but at any rate there is the comforting assurance that when the destructive methods followed in the former countries have given their inevitable consequence, British Guiana will have reserves of material to fall back on. Certainly, in face of the stationary demand for Balata and the plenitude of its occurrence, there does not seem much need for prohibitive measures, and there is therefore some basis for grumbling on the part of colonists in British Guiana that they are put at a disadvantage with their neighbors in the prosecution of this trade.

GREAT variations in the quality of this brand as sent to the English market are noticeable, and especially in the figures relative to loss on washing is it difficult to speak generally. Weber, in his book, puts the loss at 25 to 30 per cent., while Clouth has it down as 37 to

CAMETA RUBBER.

42 per cent., a considerable difference being thus shown. Both these authors, of course, speak from their own experience, and English practice supports the one as the other. One firm rarely finds less than 35 to 40 per cent. and considers this quite natural, while another testifies to 33 per cent. as the most found, this being considered rather out of the ordinary. This variation in the water content naturally makes the purchase of this rubber a somewhat speculative business, and it is a safe assumption that the purchaser sometimes comes badly out of the deal. This variation in the amount of the impurities means, of course, that in some cases the rubber requires more washing than in others, and this extra washing will have a tendency to

soften it and alter its behavior under vulcanization. At least this seems a very plausible theory to account for the variations in certain properties of vulcanized goods made largely of Cameta rubber. The general opinion is that Cameta ranks a good second to fine Pará, being more reliable than Negro-heads, and especially since Columbian proved so difficult to obtain, has its use as a second class Pará been on the increase.

As a rule the only specific reference made by rubber tire manufacturers to the composition of their goods is to the finest

CAMPHOR AND RUBBER.

Pará rubber that can be bought. It is of interest therefore, to note that the Continental company, of Hanover, in a trade circular refer to the rise in price of camphor owing to the war in the Far East. This rise in price, however, it is said, will not be felt by purchasers of tires, as the company have decided to bear the extra burden themselves. In Mr. Pearson's book camphor is referred to as having been used as a solvent for waste rubber, though I imagine only to a very limited extent. About 20 years ago the late Henry Gerner, of New York, came to this country to dispose of his patents for using camphor and Kauri gum in connection with rubber. A considerable sum of money was spent by at least one of our rubber firms in experimenting in his lines, but with a negative result. Camphor is neither cheap nor easy to manipulate and for general purposes it seems to offer no advantages. With regard to the particular use of it by the Continental company I am not in a position to make any comments.

ANOTHER COLORADO RUBBER COMPANY.

THE Continental Crude Rubber and Exploiting Co. was incorporated May 7, 1904, under the laws of Colorado, to extract rubber from wild plants growing in that region, with \$1,000,000 capital. The officers are: Dr. Sol. Ringolsky, president; John Beck, vice president and general manager; E. T. Wells, secretary and treasurer; Henry A. Weicher, mechanical engineer; Antoine Jacob, scientist. The directorate is composed of the above, and O. J. Kennedy and George C. Parkinson. The president of the new company, writing May 10 under a printed letter heading: "Office of Dr. Sol. Ringolsky, dispensing chemist, 1901 Curtis street, Denver, Colorado," says:

"Our company is capitalized for \$1,000,000—par value \$1 per share. We have placed 100,000 shares on the market at 25 cents, the proceeds to be used for the maintenance of an horticultural department. We shall leave nothing unturned in our effort to cultivate the plant, thereby perpetuating the source of supply for our factories. We have three different plants which we have so far discovered and when the season opens up we shall scour the hills for others which we believe exist."

This company is not to be confused with the American Crude Rubber Co., also incorporated at Denver some months ago, with \$1,000,000 capital. They are rival concerns, having different promoters, different processes and mechanical devices, and even employing different botanical names for the shrubs under treatment. At least, the older company is exploiting *Picradenia floribunda utilis*, while the new company is "booming" *Actinella Richardsonii*. The new company control a machine invented by H. A. Weicher, for masticating the rubber yielding shrub, no chemicals being employed in the process. The experimental machine that has been used is said to have a hopper sufficient to hold 1000 pounds of the shrub, which is ground up in 6 hours, producing from 100 to 200 pounds of rubber, "which comes out in chunks resembling bologna sausage; the fiber is cast aside and thrown away." Water is introduced into the machine to facilitate cleaning the rubber.

THE UNITED STATES RUBBER CO.'S BEST YEAR.

THE twelfth annual meeting of the stockholders of the United States Rubber Co. was held at 12 o'clock M., on May 17, at the registered offices of the company in New Jersey, at New Brunswick. The annual reports of the president and treasurer were presented and accepted, and directors elected for the ensuing year. The official reports are presented herewith in full:

PRESIDENT'S ANNUAL REPORT.

NEW BRUNSWICK, NEW JERSEY, May 17, 1904.

TO THE STOCKHOLDERS OF THE UNITED STATES RUBBER CO.: This is the third annual report of the present president of your company, and at the outset I cannot refrain from saying that it is the first report which it has given me pleasure to make and submit for your consideration.

Upon assuming the presidency of your company three years ago, the existing conditions were far from satisfactory. Owing to the abnormally high prices for our manufactured products which had prevailed for some years, many new rubber companies had come into existence. The result was an intense competition, in which the output of this company had declined to a net of \$20,800,000. By January and February, 1901, this competition had resulted in a reduction in prices averaging about 23 per cent., and in the sale by all concerned of goods at or near the actual cost of production. Under these conditions, as always, the evil supplied its own remedy, and only the stronger companies found themselves able to survive the strain of such competition. At the present time not only have we regained our full share of the trade but we have actually doubled the gross sales of our product without any advance in prices except to compensate for the advance in the cost of raw material—the larger product enabling us to run our mills to their full capacity, which decreases materially the cost of production. The gross sales of the company for the year ending March 31, 1901, were \$32,000,000, whereas the gross sales for the present year were \$64,000,000. The "gross" is measured by the list prices which are nearer uniform than the net prices.

In my annual report for 1902 reference was made to the fact that the present management was called upon to adjust a large indebtedness to the company. In the settlement of this claim in the spring of that year, the company was obliged to take over certain interests in other corporations. In consequence the present officers and directors of your company have been obliged to manage not only the business of this company, but also these various outside interests. In a previous report, I stated it to be my opinion that "serious loss has been avoided," and I can now say that through re-organization, realization, and adjustment, I feel that statement has been practically made good, although, as a matter of precaution (as will be seen by the treasurer's report), \$500,000 out of the past year's earnings has been reserved for depreciation upon these securities.

Three years ago, after re adjusting the affairs of the company to meet the lower range of prices for goods, and giving rebates to jobbers for the goods they had on hand, in compliance with a custom which then prevailed, the balance sheet showed a deficit. In the statement of two years ago, this deficit had been changed to a surplus of \$42,011.75. In the statement of a year ago, this surplus had increased to \$1,384,460.07. By this year's statement, after carrying to reserve for depreciation of securities, as before stated, \$500,000 and providing for dividend of 1½ per cent. on the preferred stock, payable June 15, 1904, requiring \$352,882.50, there will remain a surplus of \$2,107,218.86.

VOLUME OF BUSINESS.—The volume of business done by the company during the past year is the largest in its history. Three years ago the annual net sales of boots, shoes, and miscellaneous goods were \$20,853,633.94. This year the net sales amount to \$33,396,918.88. This shows an increase of \$12,543,284.94 net, of which \$5,120,288.30 is the increase of last year over the previous year.

ADVANCE IN SUPPLIES.—During the past year there has been a mate-

rial advance in the price of crude rubber and other supplies which compose or enter into the manufacture of our goods. This rise in the cost of raw materials has necessitated the recent advance in the prices of our goods, in order that in the future we may realize a legitimate profit upon our very large sales.

EMPLOYEES PROFIT-SHARING PLAN.—During the low prices for our stocks members of your executive committee thought it wise to accumulate a block of the preferred stock and a block of the common stock. These stocks are now to be distributed among about 150 of our principal employes under a plan, of which the main features are as follows: A certain number of shares of both the preferred stock and common stock will be transferred to the name of the employe, thereby making him a stockholder in the company. The certificates are then endorsed by him in blank and held by the Meyer Rubber Co., a subsidiary company of the United States Rubber Co., the employe receiving a certificate of agreement to the effect that provided he remains in the employment of the United States Rubber Co. or one of its subsidiary companies till January 1, 1908, he may at his option acquire such stock by paying \$45 a share and interest for the preferred, and \$10 a share and interest for the common, which option, under the same conditions, continues till February 1, 1910. The employe may pay into the treasury of the Meyer Rubber Co. from time to time on account of the purchase of such stock, and in the event of his decision not to take such stock, he shall be entitled to receive his money back with 6 per cent. interest. All dividends upon the stock shall, as declared, be paid over to the employe without his accounting therefor, whether he eventually takes the stock or not, and in no event shall the amount of interest charged on the purchase price of the stock exceed the amount of dividends declared thereon. The full text of this agreement is attached to this report marked exhibit "A."

The object of this plan is not only to give the company's employes a pecuniary benefit, but to bring them in closer touch with its management, and by sharing the gains to be derived from its success, to stimulate them to greater interest and energy in its affairs.

FUNDED INDEBTEDNESS.—On March 15, 1902, the indebtedness of the United States Rubber Co., and of its subsidiary companies, amounting to \$12,000,000, was funded into three year 5 per cent. collateral trust notes. From the earnings of the company since that time \$2,000,000 of these notes have been paid and cancelled, and it is the intention of your management to pay \$2,000,000 more from earnings at or before their maturity, March 15, 1905. In this connection it gives me pleasure to state that there has already been consummated with the same bankers who financed the original loan an agreement for refunding the balance of \$8,000,000 when it becomes due, for a further period of three years. The terms of this agreement we regard as fair and reasonable, and owing to our improved conditions are much more favorable to the company than those upon which the original loan was secured. It is believed that during the three years of the extension the indebtedness will be so far reduced that no further funding of this loan will be necessary, since the quick capital of the company now is such that during some portions of each year it has on hand as much as \$5,000,000 cash. The company and its subsidiary companies then being entirely out of debt a portion of the year could readily borrow on their notes for temporary requirements. Prior to the funding of 1902 their indebtedness of \$12,000,000 was all borrowed in this way.

BOSTON RUBBER SHOE CO. DEBENTURES.—The only other obligation of the company to be provided for in the future is the \$4,800,000 5 per cent. debentures of the Boston Rubber Shoe Co., due August 1, 1908. These debentures (originally \$5,000,000) were given to the former stockholders of the Boston Rubber Shoe Co. as part of the purchase price for the splendid properties of that company. By the terms of the debenture, the Boston Rubber Shoe Co. at all times must have on hand net quick assets in an amount equal to the outstanding debentures, and now the company has on hand in such net quick assets an amount in excess

of such debentures. To provide for the reduction of such debentures between now and the date of their maturity, I would recommend applying annually a certain percentage of the earnings of the Boston Rubber Shoe Co. to such reduction. There can be no difficulty whatsoever, with the very high credit of the Boston company, in extending the balance, if any, that may remain unpaid at maturity.

CRUDE RUBBER.—Your management has given much attention to the subject of crude rubber during the past year, and has consummated arrangements for the establishment of our own purchasing agencies at Pará and Manáos. We also have laid the foundation in another direction for acquiring and handling generally our very large requirements of crude rubber. We are confident that these steps will give us special advantages and facilities never before possessed by this company and not enjoyed by any other consumer of rubber.

STOCKS OF MERCHANDISE ON HAND.—Your company is unusually well stocked with merchandise required for the manufacture of its product, and at prices materially below the present market prices. This will account for the increase of the item in the treasurer's report. "Inventories, Manufactured Goods, and Materials \$16,801,876.28, March 31, 1904," as against \$11,480,783.18, March 31, 1903, and for the decrease in cash—\$1,660,852.62 March 31, 1904, as against \$4,823,830.91 March 31, 1903. This is done in conformity with the policy of your management of purchasing, so far as possible, crude rubber and other materials sufficient to cover all goods that are sold in advance at fixed prices. This action cannot but prove of great advantage to the company and its shareholders, since it secures beyond any doubt a reasonable profit upon all sales of the company's goods.

NEW OFFICES.—Owing to the inadequacy of accommodations the general offices of the company in New York have recently been moved from 15 Murray street to the new office building, "42 Broadway." All the departments of the company are now on the same floor of this commodious building, thereby giving ample space for our officers and employes, besides affording better facilities for communication between the different departments and the transaction of the general business of the company. This has been done with no increase in expense. The company also maintains a warehouse in the jobbing district for the accommodation of local customers.

NON-RESTRICTED SYSTEM OF SELLING GOODS, AND EXPORT TRADE.—The plan of selling our product, which went into effect January 1, 1903, whereby no attempt is made to regulate the prices of our goods

after we have parted with the title to them, has been found to work successfully, even beyond our expectations. While some of our directors were in doubt as to the expediency of the change, all are now agreed that the result has proved the wisdom of the action taken. This is evidenced among other things by the record of the past year, which shows by far the largest volume of business ever transacted by the company.

Our export trade likewise shows an increase over any previous year.

MANUFACTURE OF BY-PRODUCTS.—The company manufactures all its reclaimed rubber, which gives it an article of uniform and superior quality. It also manufactures, under its own patents, all its buckles, the company's consumption of which last year amounted to 11,464,704 pairs, and which are far cheaper and better than any other in the market. It also makes its felt linings for boots, lumbermen's, etc.

CONCENTRATION AND ECONOMIES.—During the year much progress has been made in promoting the efficiency of the manufacturing, selling, and accounting departments of the company. A complete system of comparison of costs of the different factories has been inaugurated by the assistant general manager, which already shows a saving of large sums without detracting in any degree from the quality of the goods manufactured. In the selling department, under the manager of sales and manager of branch stores, far greater efficiency and energy prevails than ever before. In the accounting department, under the assistant treasurer, matters have been so systematized that each month the exact result of operations of the company and its subsidiary companies is presented to the directors, and great advantage is derived therefrom, especially through comparisons of the results of the operations of the different mills. This latter will enable the directors to make statements of earnings to the stockholders at each dividend period.

LITIGATION.—In the closing out of its tire business some time ago, the company accepted certain securities, over which there was threatened litigation. This has been satisfactorily adjusted during the year, and the securities converted into cash. All this has been done in such a manner as to leave the most friendly feelings with the large concern that purchased our tire business. There is now no pending litigation which is likely in any way to injuriously affect the company; there being, however, several important suits undetermined which were brought in the interest of the company.

CONDITION OF FACTORIES AND INVENTORIES OF MATERIALS.—The high efficiency of our factories has been fully maintained. During the year we have replaced the power plants of several mills, and made ex-

TREASURER'S REPORTS.

UNITED STATES RUBBER CO. AND SUBSIDIARY COMPANIES.

CONSOLIDATED GENERAL BALANCE SHEET, MARCH 31, 1904.

ASSETS.

Property and plants.....		\$47,716,005.04
Inventories, manufactured goods, and materials.....	\$16,801,876.28	
Cash.....	1,660,852.62	
Bills and loans receivable.....	2,072,313.04	
Accounts receivable.....	6,489,128.76	
Securities owned.....	2,681,649.69	
Miscellaneous assets.....	783,522.40	30,489,342.19
Total Assets.....		\$78,205,347.23

LIABILITIES.

Capital stock, Preferred.....	\$23,525,500.00	
Capital stock, Common.....	23,666,000.00	\$47,191,500.00
Boston Rubber Shoe Co., debentures.....	4,800,000.00	
U. S. Rubber Co., Funding Notes.....	10,000,000.00	
Fixed surpluses (subsidiary companies).....	8,134,849.37	
Loan accounts payable.....	1,622,000.00	
Merchandise accounts payable.....	3,066,232.72	4,688,232.72
Deferred liabilities.....	430,663.78	
Reserve for depreciation of securities.....	500,000.00	
Reserve for dividend [June 15, 1904].....	352,882.50	
Surplus.....		2,107,218.86
Total Liabilities.....		\$78,205,347.23

UNITED STATES RUBBER CO. AND SUBSIDIARY COMPANIES.

CONSOLIDATED INCOME STATEMENT FOR YEAR ENDING MARCH 31, 1904.

Gross sales, boots and shoes and miscellaneous.....	\$64,553,237.43
Net sales, boots and shoes and miscellaneous.....	\$33,396,918.88
Cost of goods sold.....	28,987,863.20
Manufacturing profits.....	\$4,409,055.68
Freight, taxes, insurance, general and selling expenses.....	1,766,178.48
Operating profits.....	\$2,642,877.20
Other income.....	187,329.56
Total income.....	\$2,830,206.76
Less:	
Interest and commission on Funding Notes and borrowed money.....	\$802,173.67
Interest on Boston Rubber Shoe Co. Debentures.....	240,000.00
Interest allowed customers for prepayments.....	143,097.06
Net income to surplus.....	\$1,644,936.03
Deductions for bad debts, etc.....	69,294.74
Total.....	\$1,575,641.29
Reserve for depreciation of securities.....	\$500,000.00
Reserve for dividend.....	352,882.50
Surplus for period.....	\$722,758.79
Surplus April 1, 1903.....	1,384,460.07
Surplus March 31, 1904.....	\$2,107,218.86

JAMES B. FORD, Treasurer.

tensive improvements in others. All of our inventories this year are taken very much below cost, and had they been taken at cost a much larger profit would have been shown.

FUTURE OUTLOOK.—The continued and permanent prosperity of the United States Rubber Co. seems assured. The property of the company comprises the finest rubber plants in the world. The difficulties which confronted the management three years ago have been overcome. The underlying conditions all point to the continued and permanent prosperity of the company. Not only have we regained our lost trade, but our output has assumed proportions far beyond our expectations. We produce a staple and necessary product, the consumption of which increases, and will continue to increase with the growth of our country. Our production for the year has been over 48,000,000 pairs of rubber boots and shoes. Our credit is the best. Our indebtedness is comparatively small and decreasing. Our mills are maintained at the highest degree of efficiency. Our employes are loyal, and interested in the work of promoting the success of the company. During the past year, as already pointed out, we have introduced important improvements and economies into our manufacturing, purchasing, sales, and accounting departments. These, and other advantages which we possess, will, we feel confident, enable the company to continue low prices, and still to make a fair margin of profit. We believe this policy is wise and conservative, and that it will secure to the company permanently the great volume of business it now enjoys.

As bearing upon the future, I would call special attention to the fact that notwithstanding our very large business of last year, the detailed orders for the first three months of this year show a marked increase over the same period of last year.

Our net profits of the past year of about \$1,500,000 would have been double that amount had it not been for the extraordinary and unlooked for advance in prices of crude rubber and other materials after the prices for goods had been fixed at the beginning of the year. This year we have advanced prices to correspond with the advance in materials.

After the most careful and conservative consideration of the subject, your directors last month determined that they were safe in resuming dividends upon our preferred stock, and declared the first dividend of $1\frac{1}{2}$ per cent. payable June 15, the books closing for this dividend May 31. This step was not taken without the firm conviction on the part of your directors that the company would be able to continue quarterly dividends hereafter, and at the same time gradually to reduce its indebtedness until it is entirely wiped out. We believe the resumption of dividends has come to remain, and we see no reason why, without abandoning the policy of low prices for its goods, the net profits of the company should not from the present continue year by year to increase, and thereby give the fullest satisfaction to all classes of our stockholders.

Respectfully submitted, SAMUEL P. COLT,

President.

THE ANNUAL ELECTION.

FIFTEEN directors were elected, the same as for three years past, though the by-laws since 1899 have provided for nineteen directors. The only change in the list is the substitution of Anthony N. Brady for Ephraim L. Corning, who for some time past has resided in Europe. The board is constituted as follows, the figures in parenthesis indicating the number of full terms for which each member of the board has been elected to date:

WALTER S. BALLOU, Providence, Rhode Island. [2]
E. C. BENEDICT, Greenwich, Connecticut. [3]
ANTHONY N. BRADY, New York city. [1]
SAMUEL P. COLT, Providence, Rhode Island. [13]
E. S. CONVERSE, Boston, Massachusetts. [7]
H. E. CONVERSE, Boston, Massachusetts. [7]
COSTELLO C. CONVERSE, Boston, Massachusetts. [4]
JAMES B. FORD, New York city. [13]
J. HOWARD FORD, New York city. [13]
FRANCIS L. HINE, New York city. [2]
HENRY L. HOTCHKISS, New Haven, Connecticut. [13]
LESTER LELAND, Boston, Massachusetts. [6]
FREDERICK M. SHEPARD, East Orange, New Jersey. [13]
FRANCIS LYNDE STETSON, New York city. [3]
JOHN D. VERMULE, New York city. [8]

The newly elected board met in New York on May 20 and after organizing, elected the following officers and Executive Committee for the ensuing year:

President—SAMUEL P. COLT.

First Vice President—JAMES B. FORD (succeeding Costello C. Converse).

Second Vice President—LESTER LELAND.

Treasurer—JOHN J. WATSON, Jr. (succeeding James B. Ford).

Assistant Treasurer—W. G. PARSONS (succeeding John J. Watson, Jr.).

Secretary—SAMUEL NORRIS.

Assistant Secretary—JOHN D. CARBERRY.

The Executive Committee consists of Samuel P. Colt, Lester Leland, James B. Ford, Walter S. Ballou (succeeding Costello C. Converse), and E. C. Benedict.

The rubber importing business referred to in President Colt's report will be carried on by a separate corporation under the name General Rubber Co., of which more will be said in another place in this issue.

RUBBER MEN ON THE METRIC SYSTEM.

THE National Association of Manufacturers has been securing opinions from its members in regard to the proposed law for the compulsory use of the metric system in all transactions with any department of the United States government requiring the use of weights and measures; also as to the desirability of the metric system as a basis for factory work, and its advantages, if any, in connection with foreign trade. The answers obtained, and printed in the Association's organ *American Industries* (New York, April 15), are overwhelmingly opposed to the proposed law, opposed to the use of the metric system in the factory work in which the members are interested, and of the opinion that the system would be of little benefit in the extension of export trade. Many members write that the enactment of the proposed law by congress would cause them to cease to bid for government work, for the reason that the adoption of the new system would involve so great an expense in equipping their factories with new standards.

Thirteen rubber manufacturers responded to the Association's circular of inquiries, including the Boston Belting Co., Hamilton Rubber Manufacturing Co., and the Fisk Rubber Co., the other concerns not being named. The purport of their answers is summarized by the Association as follows; many firms not answering all the questions:

Q. 1.—Is there a call for the system in foreign trade? A.—Yes, 2 answers; small, 2; none, 9.

Q. 2.—Proportion of factory work now done on metric system? A.—Small, 1; none, 12.

Q. 3.—Proportion of work done for government on metric system? A.—Five per cent. and over, 1; small, 6; none, 2.

Q. 4.—Is it practicable to use the metric system for government work alone, retaining present standards for other work? A.—Yes, 4; no, 5.

Q. 5.—Would the use of double systems increase the cost of work for the government? A.—No, 1.

Q. 6.—Would such a law as proposed lead to withdrawal from government work? A.—Yes, 1; no, 8.

Q. 7.—Estimated loss from abandoning present standards and adopting the metric system generally? A.—None, 1; large, 7 [the Fisk Rubber Co. mentioned \$5000 to \$10,000 as cost of change].

Q. 8.—Would there be any appreciable advantage from adoption of metric system? A.—Yes, 4; no, 9.

Q. 9.—Would such advantages offset cost of change? A.—Yes, 3; no, 1.

Q. 10.—Should congress enact the proposed law? A.—Yes, 2; non committal, 2; no, 9.

Q. 11.—Should the metric system be made the legal standard of the country? A.—Yes, 3; non committal, 1; no, 9.

THE RUBBER CULTURAL INTEREST.

YIELD OF TWENTY YEAR OLD "HEVEA" TREES.

IN the *Ceylon Observer* of April 11 Mr. R. W. Harrison reported in detail the result of tapping some 20 year old Pará rubber (*Hevea*) trees on the Culloden estate, in Kalatura district, Ceylon, which cannot fail to attract attention. Four trees, particularly selected for experiment for this record, he says "have been tapped regularly since 1891, every known method of tapping having been tried at some time or other." The tapping was begun on January 5. Single oblique cuts were made, about 6 inches apart, around each trunk, extending not higher than 6 feet from the ground. The same cuts were reopened on every alternate day until 15 tappings had been made of each tree. Then a second series of cuts was opened, higher up, and the cuts were reopened for the same number of days. The second series of tappings was somewhat disappointing, as the weather had turned very dry, "and possibly better results might have been obtained if the tapping of the upper section had been delayed a month or six weeks." The results obtained were as follows:

TREES.	Lower Section.	Upper Section.	Total.
A.....	9 lb. 4 oz.	5 lb. 0 oz.	14 lb. 4 oz.
B.....	11 " 0 "	4 " 12 "	15 " 12 "
C.....	5 " 8 "	1 " 12 "	7 " 4 "
D.....	12 " 6 "	4 " 0 "	16 " 8 "
Total.....			53 lb. 12 oz.
Average per tree.....			13 " 7 "

The four trees differed widely in size. Three of them measured in girth as follows, 3 feet from the ground:

A	B	C
8 feet.	7 feet 6 inches.	5 feet 11 inches.

The fourth tree divides naturally, at 2 feet from the ground, into three stems, the respective girths of which, at 3 feet from the ground, are: 4 feet 8 inches, 4 feet 4 inches, and 6 feet 4 inches.

Mr. Harrison intends tapping the same trees again this year, in August and September, and recording the results.

THE OBISPO RUBBER PLANTATION CO.

[Hacienda de San Silverio El Obispo, state of Oaxaca, Mexico. Office: No. 15 William street, New York.]

THE shareholders chose by ballot for the annual inspection this year Mr. John A. Schauweker, a business man of Cleveland, Ohio, who reached the plantation in February, finding in charge Mr. Maxwell F. Riddle, treasurer of the company and general manager of the estate. Mr. Schauweker reported 670 acres in rubber, from six months to 2½ years old and in good condition. Some of the rubber is now too large to permit "side crops" on the same ground, but some other land is devoted to such crops. He reports the production during the year of about 5000 bushels of corn and 100 tons of rice. Considerable clearing was in progress, to prepare for planting this year.

BATAVIA COMPANY, INC.

[Plantation "Batavia," near Santo Domingo, district of Culcutlan, state of Oaxaca, Mexico. Office: Wells Building, Milwaukee, Wisconsin. See THE INDIA RUBBER WORLD, March 1, 1904—page 185.]

THE first annual inspection of Batavia plantation under its present management was made by Ben L. Edgerton, of Oshkosh, Wisconsin, as representative of the shareholders in the company. He reached the property in the latter part of February. He reports nearly 60 acres of rubber growing well, some of it planted in 1900, with 70,000 nursery seedlings for planting this year. Trees 3½ years old measured 31 feet high

and 23½ inches in girth 6 feet from the ground. Over 15,000 coffee trees are in bearing; at the time of Mr. Edgerton's visit the year's yield had been 30,125 pounds, and the gathering was not quite complete. Since July 40,869 coffee trees had been set out. Considerable vanilla had been planted. An experimental garden of 15 acres has been opened for the study of other tropical plants. Edward A. Kummel is the plantation manager (*administrador*).

MEXICO RUBBER CO. OF PROVIDENCE.

[Plantation "Estrella," state of Oaxaca, Mexico. Office: No. 10 Weybosset street, Providence, Rhode Island.]

THIS company has been referred to hitherto in these pages as La Estrella Coffee Co. The business was established in 1898, to engage in coffee growing. There are now growing about 250,000 coffee trees, from 3 to 6 years old, besides which about 60,000 rubber trees have been planted. On February 24, 1904, the stockholders voted to make rubber culture the principal business, and therefore amended the name of the company, as printed at the heading of this article. It is proposed to increase the number of rubber trees to 500,000, to provide for which an issue of bonds has been voted.

LARGE YIELD OF "CASTILLOA."

THE amount of rubber that can be taken from one tree has been the subject of much conjecture and the source of many conflicting statements. It is therefore with satisfaction that we here reproduce a photograph of a wild *Castilloa elastica* from which 26 pounds of rubber were taken in 1902. The tree is on a private plantation on the west coast of Guatamala, and is thought to be about thirty years old. The 26 pounds came from two tappings, and in no way injured the tree, as it is still healthy and yielding rubber. Just what condition of dryness the 26 pounds was in when the weights were taken there is no means of knowing, but there would be at least 20 pounds of bone dry rubber.



PROLIFIC "CASTILLOA" TREE IN NICARAGUA.

SCIENTIFIC VULCANIZATION METHODS.

BY CHARLES J. TAGLIABUE.

I.—PIPING DEFECTS AND REMEDIES.

THERE are a great variety of helps to the heater man in the way of semi automatic devices, but none of them are effective unless vulcanizer or press is so placed and piped that its skilful handling always results in even cures. And even then the problem is no easy one. And just here it might be well to catalogue a few of the ordinary defects that a steam expert finds in very many rubber factories.

Overtaxing the capacity of the main steam line is a usual defect, and is often supplemented with other faulty piping. Then, too, in many cases a long heater is supplied with steam from one connection, usually at the head. This arrangement does not insure uniform heating, as the end nearest the steam inlet heats quickest, and it is possible to have the heater at the start quite hot at one end, and cold at the other. An attempt to improve on this by running a perforated steam pipe on the inside of the heater tends to equalize the heat, but usually the area of the perforations is not considered, and the steam is not delivered uniformly from end to end.

All long heaters should be provided with three or four steam inlets suitably spaced to insure rapid and uniform distribution of the heat. Heaters are rarely provided with blow-offs on the upper side, for the release of the air when starting up; consequently air is trapped in the heater, and irregular curing results. The safest and best way is to provide a large exhaust, open it wide when steam is turned on, and, when the steam escapes in good volume, close it; this will relieve the heater quickly of air, and cause the steam to circulate rapidly and uniformly.

Steam with a large amount of water in suspension is not as hot as dry steam, and retards the cure, besides making the goods wet. It should be the aim, therefore, to cure goods in as dry steam as possible. There are three factors in the accomplishment of this end; namely, dry incoming steam, the rapidity of the circulation, and the quick discharge of the wet steam and condensation.

When steam is turned into a large heater, the condensation is very rapid; a fog forms and gradually condenses. This fog and the condensation should be discharged rapidly to equalize the heat so that the goods will be subjected to the same temperature for the same length of time; therefore it is necessary to open the discharge valve wide. No traps of any kind should be used at first. When the steam leaves the discharge pipe bluish in color, it indicates that the fog has been dispelled, and the discharge valves can then be throttled to permit the water to pass out freely; or at this stage of the curing, a good trap can be used to advantage, and will effect some economy.

In this connection the matter of piping is very important. Some introduce the steam at the bottom and some at the top; both methods have merit, but a combination of the two is preferable. Steam entering at the top only, does not rid the heater of air quickly. Steam entering at the bottom only, must pass through the fog, and is deprived of its heat and dryness. The best way is to have top and bottom inlets. Turning on the bottom inlets first will force the air out of heater at the top blow-off very rapidly. After heater is thoroughly freed of air, close the bottom inlets and open those on top. The fog being heavier than the dry steam entering from the top inlets, will settle at the bottom and be blown out. Frequently the steam before entering the heater passes through a steam separator, removing the entrained water, and greatly facilitating operations.

The proper piping of presses and distribution of steam in them is as important as in the case of heaters. The mains and supply lines should be ample, and in case of large belt and packing presses, there should be sufficient steam inlets to insure quick and uniform steam distribution. The steam space in a platen though small is nevertheless required to heat a large amount of metal and exposed surfaces. This causes rapid condensation and necessitates careful manipulation of the discharge to keep the platens free of water or wet steam. Unless this is attended to very carefully, the lower platens are apt to fill with water and cause the goods to be undercured on one side. As in the case of heaters, when first starting up a press, it is well to open the discharge valve wide, dispensing with a trap, after which the valve can be throttled or trap used.

The proper application and use of the thermometer also merits careful consideration. The bulb of the thermometer should not project inside of a heater, as it is apt to be struck and broken. It should be held in a special fitting, provided with a vent cock, which should be wide open when the heater is first started, and afterwards throttled so that just sufficient steam escapes to keep up a good circulation around the thermometer bulb. In place of the special fitting just mentioned, a nipple and tee can be used with the vent cock or valve screwed in the side outlet of the tee.

On presses, the thermometer being placed on the side, it is oftentimes impossible to screw them directly into the platen; hence it is necessary to use the special fitting just mentioned, manipulated in the same way. In many mills a nipple with a coupling is screwed into the top of the heater or side of the press, and the thermometer screwed into coupling; such a condition is a constant source of danger, since the thermometer cannot possibly indicate the true temperature, as the air pockets in the fitting, and steam cannot circulate freely around the bulb, causing the thermometer to read 10 or 20 degrees too low. Another matter of carelessness observable is the fact that thermometers are constantly used having the columns separated—that is, small particles of mercury being lodged in the tube above the main column and no attention is paid to these separations or allowance made for them. They however create a considerable error, and should be corrected as soon as observed. The best remedy is to use gas filled thermometers in which the mercury column can never separate. On long heaters it is desirable to have two or three thermometers in order to note the temperatures in different parts. A thermometer near the door (if it be the only one) is not well placed, because the radiation of heat by the uncovered door lowers the temperature. On long presses, it is equally desirable to have two or three thermometers on both the upper and lower platens.

Where pressure gages only are used for curing, it is not unusual to find no two gages indicating alike. This is easily accounted for, since it is known that Bourdon springs cannot retain their accuracy for any length of time, and require to be constantly tested and adjusted. Such gages are frequently ten points in error. A mercury pressure gage is the only form which is reliable. Steam control of a heater or press should always be done by temperature observation, as it is the heat that effects the cure, and experience has proven that the best results can be obtained when thermometers are employed.

When gages only are used on a press they are misleading, because, should the platens fill with water, the gage will not indicate the fact; but where thermometers are used such a condition can be quickly detected. Recording thermometers or gages are also desirable adjuncts to a heater as they give a record of the work done, and are a check upon carelessness.

As previously stated, the hand control of a heater or press is

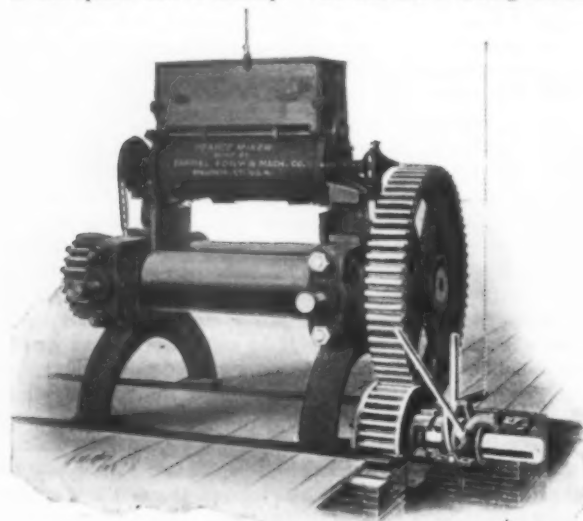
accomplished by throttling the steam valve. If the steam pressure on the lines were always uniform, the valve might be so nicely throttled that the temperature could be maintained without appreciable variation, but the steam pressures vary, and the throttling of the valve must be changed frequently to correspond, and the thermometer requires constant watching. With a careless man in charge, this means serious results, but even with the most careful men, the recording thermometer has shown that in most cases it is absolutely impossible to obtain uniform results by hand regulation, as the throttling of the valve cannot be changed with sufficient rapidity and accuracy.

On presses, however, such changes are not so apparent, as it takes some time to materially change the temperature of the iron mass.

RUBBER FACTORY APPLIANCES.

PEARCE AUTOMATIC MIXER AND FEEDER.

CARE in handling compound, and in incorporating it evenly and thoroughly, are vital to good mixing, and would seem to be perfectly attained in the device here shown. It consists primarily of a box, into which the compounding materials are weighed in the compound room. This is then carried to the mill that has been fitted with the automatic feeder, and placed in the square case at the top. The box has a sliding bottom



which when opened allows the compound to fall into the mixing cylinder below. In this cylinder is a mechanism that thoroughly stirs and mixes its contents. After this is done and when the rubber below on the rolls is ready to receive compound, a slide in the bottom of the cylinder is opened and the materials drop evenly between the rolls. The feed is so arranged that it may be regulated to suit any type of mixing, and is said to produce the most homogenous mixed sheet that could be desired. In addition to this there is the cleanliness of the method, a more uniform vulcanization, and a decreased shrinkage of the finished sheet. This mechanism can be attached to any type of mixing mills, with rolls of any dimensions. [Farrel Foundry and Machine Co., Ansonia, Connecticut.]

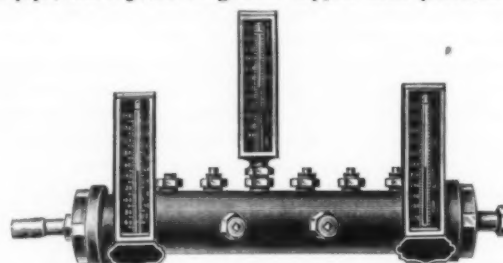
TESTING ACCURACY OF VALVE BALLS.

MOLDED rubber valve balls are usually shaped to fit the mold approximately and pressed twice in position 90 degrees apart in order to form them as nearly as possible into spher-

ical shape. The resulting balls, even under this plan of double molding, are not strictly spherical. It is always desirable to determine their accuracy of shape. Perhaps the simplest method of doing this is by applying the geometric truth that any section of a sphere is a circle. For this purpose a beveled edge ring, of less diameter than the ball to be tested, is laid on the sphere and moved over its entire surface. All inaccuracies may be plainly detected by inspecting the contact between the ring and surface, the observation being made by viewing the contact toward the light. In this way the extent and location of every deviation from a true sphere becomes apparent.

TESTING THERMOMETERS.

ALL thermometers, and particularly vulcanizing thermometers that are not "gas filled," are liable to derangements which result in faulty indications. They should therefore be tested frequently, to insure confidence in their indications. An excellent arrangement for this purpose is that shown in the accompanying illustration. It consists of a 3 or 4 inch wrought iron pipe, about 3 feet long, with capped ends provided with



steam inlet and outlet. There are a number of openings on the top and side to receive both straight and angle thermometers. The work of verifying any instrument whose readings are questioned is easily accomplished by comparison with a standard thermometer kept as a part of the apparatus. The range of test temperatures is readily controlled by the steam circulation.

INDIA-RUBBER GOODS IN COMMERCE.

EXPORTS FROM THE UNITED STATES.

OFFICIAL statement of values for March, 1904, and the first nine months of five fiscal years, beginning July 1, from the treasury department at Washington:

MONTHS.	Belting, Packing, and Hose.	Boots and Shoes.	All other Rubber.	TOTAL.
March, 1904.....	\$ 71,031	\$ 45,422	\$ 209,802	\$ 326,255
July-February. ...	596,536	901,017	1,586,720	3,084,273
Total... ..	\$667,567	\$946,439	\$1,796,522	\$3,410,528
Total, 1902-03...	596,799	948,505	1,623,362	3,168,666
Total, 1901-02...	457,003	914,455	1,252,572	2,624,030
Total, 1900-01...	391,862	641,855	1,273,876	2,307,593
Total, 1899-00...	397,670	311,973	1,016,612	1,726,264

CUBAN IMPORTS OF RUBBER GOODS.

OFFICIAL statement of values, and of derivation of such imports, for the calendar year 1902:

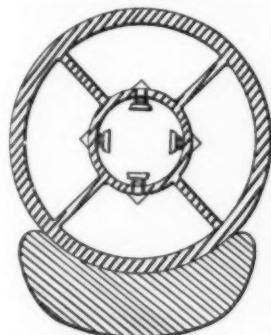
FROM—	Rubber Hose.	Rubber Footwear.	All other Rubber.	Total.
United States.....	\$6,786	\$4,413	\$62,416	\$73,615
Germany.....	...	904	14,623	15,527
Great Britain.....	62	...	21,515	21,577
France.....	8	...	7,306	7,314
Spain.....	27	...	20,810	20,837
Other Europe.....	...	15	2,984	2,999
All other.....	...	...	9	9
Total.....	\$6,883	\$5,332	\$129,563	\$141,878

NEW GOODS AND SPECIALTIES IN RUBBER.

DUPONT'S NEW PNEUMATIC TIRE.

A VERY ingenious and simple invention in the line of pneumatic tires is that shown in the accompanying illustration. It is, in brief, a tire with an inner tube.

Between the cover and the inner tube are a number of recesses or air pockets fitted with valves which are set in the walls of the inner tube. The main inflation valve (not shown in the illustration) passes through the rim and into the inner tube and furnishes the air supply. The secondary inflations are practically check valves of simple construction, so that in inflating the inner tube all of the air compartments are filled. The secondary valves, however, keep the air from leaking out, and as there is a multiplicity of these compartments, in case of puncture the tire does not flatten. [Joseph Dupont, No. 77 Stone street, Rochester, New York.]



THE "EVERSTICK" INVISIBLE RUBBERS.

THIS is a new overshoe, which simply covers the sole of the leather shoe, but which is warranted to stay on, by reason of having a cord circling the entire shoe, that will not stretch. It clings tightly around the edge of the sole, and does not bind the foot in any way, though affording ample protection against wet or damp street pavements. It is practically invisible, and may be worn without injury to a patent leather shoe.



Though only recently introduced, the sale of these shoes is reported to have become large. A number of leading jobbers throughout the country have been named as agents for the owners of the United States patents, Adams & Ford, Cleveland, Ohio.

CUP END SAFETY NIPPLES.

THE nipple illustrated herewith is made of one piece of pure rubber. The idea of the "cup end" is to prevent collapsing, and by reason of the special construction the milk flows readily through the cup without jets and streams, which might cause strangling. Figure 1 shows a sectional view of the nipple. Another feature is that the nipple is easily reversible, which facilitates cleaning it. Figure 2 shows how the nipple is reversed, by drawing the large over the small end. Patented by Clarence A. Lindsay. [The M. Lindsay Rubber Manufacturing Co., New York and Washington.]



"CROWN" HARD RUBBER CORD ADJUSTER.

THIS simple device is easily placed upon an electric light or other similar cord without removal of the sockets thus obviating slipping, and preventing abrasion of the connections. It is reliable, easily adjusted, durable, and can be used with cords of different sizes. When the regular National Code or similar cord is used, it is passed through the larger end of the adjuster, as shown in the illustration; when used with small cord, the loop is passed through the smaller end first. These adjusters are being handled by supply dealers throughout the country, and are in extensive use in factories, mills, offices, and other buildings. The manufacturer offers to supply samples free on request. [J. H. Seaman, No. 175 Dearborn street, Chicago.]



A NEW DISTRIBUTING PAD.

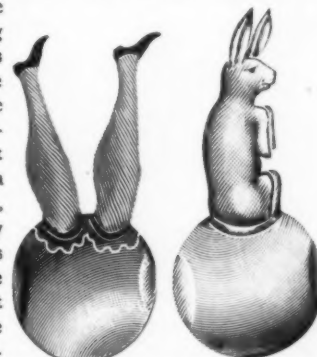
IN the lettering of canvas book covers old time book men used a leather pad stuffed with cotton, and an untidy, unsatisfactory makeshift it was. That is why the pad made of rubber for this work has proved so popular. The rubber part is of a special compound that is neither affected by the oil in the ink, nor the benzine in cleaning. It also saves a great deal of time to the worker, and is exceedingly durable. They are sold in sets of three, neatly boxed, for red, blue, and black inks. [The Mattson Rubber Co., No. 26 West Broadway, New York.]



MR. BAUMANN'S LEGS.

THE head of the Baumann Rubber Co. has a very marked faculty for producing little novelties that attract attention and command a ready sale. He has of late been devoting himself to a series of toys that are of the "tongue ball" order, and that are quite original. For example, that shown in the first illustration is apparently a small rubber ball which, upon pressure, suddenly shoots out a pair of legs that are a surprise to the observer. It is said that the inventor, or some one of his company, was advised that such a toy would not be approved of by a certain New Yorker by the name of Comstock. But that such a position would be absurd is evidenced by Mr. Baumann's retort.

"How can he stop it him?" he said. "Why don't he stop the wind to blow about those Flatiron building? Why not



stop the beaches bathing ad? Why don't he stop those stage girls dancing with short skirts already? So he is able to stop those I stop showing my legs, ain't it?"

The sale therefore goes on and it is large.—Another surprise toy is a little rubber Easter egg out of which pops a rabbit, while still another, designed for sale at the St. Louis Exposition, is a rubber ball in which is concealed the head of an army mule. [The Baumann Rubber Co., New Haven, Conn.]

HARD RUBBER CATHETER SCALE.

THE illustration represents (in reduced size) a hard rubber Catheter Scale, the exact dimensions of which are $5\frac{1}{4} \times 3\frac{1}{4}$ inches. The perforations, of course, are relatively larger in the full sized gage.

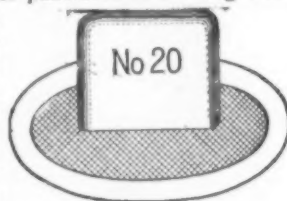


One feature not shown in the illustration is the series of figures, indicating diameters according to the English and French scales of measurement. These gages may be obtained with the imprint of any firm desiring to market them. [Hanover Rubber Co., Limited—George Borgfeldt & Co., American agents, New York.]

ometers according to the English and French scales of measurement. These gages may be obtained with the imprint of any firm desiring to market them. [Hanover Rubber Co., Limited—George Borgfeldt & Co., American agents, New York.]

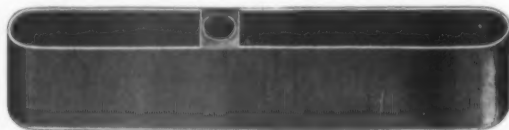
TIRE REPAIR PLUG WITH OBLONG STEM.

THE Cox improved plug, which is illustrated herewith, is recommended as a certain cure for punctured or cut single tube or double tube tires. The stem is made oblong, in order that it may be cut to fit all kinds of cuts and punctures. The inner surface of the head is corrugated, in order that it may not expel the cement between the wall of the tire and the head of the plug. The stem fills up the cut or puncture, holding the patch firmly in place. United States patent No. 733,014, issued July 7, 1903, to David H. Cox, Jr. [Cox & Spencer, Rahway, New Jersey.]



RUBBER COVERS FOR TUNING PINS.

IT is said that the average piano needs tuning as often as once in three months. The reason for this is the unprotected



steel pins known as "tuning pins." To protect them there has been invented a neat rubber coverlet such as is shown in the accompanying illustration. This fits over each row of pins, being socketed to one of them, and effectually insulates the pins from heat, cold, or dampness. It is said that these coverlets have been known to keep the original tone of a piano up for as long as three years. It is estimated that there are about 4,000,000 pianos in the United States at the present time, and that the annual sale is for about 125,000 instruments. There are some, no doubt, who would claim that all of the above instruments are out of tune. Experts, however, figure that 80 per cent. of those in use are in that state, and without knowing

it need the rubber coverlets. It would seem as if this were a new and fertile field for a large and profitable business in preventing rather than curing instrumental vagaries. [George R. Percy, No. 25 Pine street, New York.]

EVANS VACUUM CAP, FOR FAILING HAIR.

THIS device is based upon the theory that loss of hair is due to impeded circulation of blood in the scalp, and is to be remedied only by stimulating the circulation, and thus supplying the natural food for hair growth. The invention is the result of attempts to stimulate circulation without the irritation caused by massage, blistering, and other methods practiced in the past. The central idea of the device is the production of a vacuum over the scalp, for which purpose is used a nickel-plated helmet, lined with a rubber diaphragm, which, when properly adjusted, fits airtight on the head, the diaphragm covering the upper portion of the forehead, and resting above the ears. The helmet is suspended from a rod attached to the back of a chair, enabling the occupant to adjust it conveniently to the head. To the seat of the chair, and within easy reach, is an exhaust pump, which, when connected to the helmet and put in operation, creates a vacuum above the head, drawing the blood to the scalp, and gradually, under daily use, improving the circulation. An ordinary chair can be used. [Evans Vacuum Cap Co., Fullerton building, St. Louis.]



QUICK VULCANIZING DENTAL GUM.

THE usual practice in the handling of dental gum for the manufacture of tooth plates by the thousands of dentists who today do such work is—that is, as far as vulcanizing goes—to take about half an hour in getting the heat up to the required temperature, then to hold it there from an hour to an hour and a half. The time varies somewhat according to the type of vulcanizer used and the compounds employed. When the cure is finished the vulcanizer is cooled down gradually, as too quick cooling would fracture the teeth. Directly in this connection THE INDIA RUBBER WORLD is advised that a new quick vulcanizing dental rubber has been invented which reduces the time to 15 minutes, the temperature being 320° F. These rubbers are said to be made in all colors, including pink; are described as lighter in weight, stronger, and very easily handled by the dentists. The formulas have been prepared by Arthur C. Squires, of Akron, Ohio, and the goods are to be made by the Akron Dental Rubber Co., the incorporation of which was noted in the last issue of this Journal.

MONEY AT PARA.—For want of small change, tram tickets are circulating as money at Belem [Pará], although there seem to be lots of nickel in the local treasury, waiting, we suppose, for a good fire to help put it into circulation. The *Journal* says that small change is "badly wanted in the rubber districts," though what use it can be in places where an egg costs 1\$ and a chicken 20\$ apiece is hard to say.—*Brazilian Review*.

RECENT RUBBER PATENTS.

UNITED STATES OF AMERICA.

ISSUED APRIL 5, 1904.

- N**O. 756,222. Brush [for scrubbing]. W. W. Evans, Salt Lake City, Utah.
- 756,350. Hose mender. F. A. Garbutt, Los Angeles, Calif.
- 756,376. Fountain pen [feed for]. F. M. Kegrize, Philadelphia.
- 756,472. Wheel [with resilient tire]. J. Carpenter, Brooklyn, N. Y.
- 756,515. Lever for manipulating the covers of pneumatic tires. E. Michelin, Clermont Ferrand, France.
- 756,517. Siphon. C. Miller, Sunflower, Pa.
- 756,536. Safety tire. A. F. Sherwood, Peekskill, N. Y.
- 756,544. Surgical or obstetrical sheet. W. W. Townsend, Rutland, Vt., assignor of three fourths to W. N. Knowlton, Melrose, Mass.
- 756,546. Combined hydrometer and syringe. R. Van Benthuyssen, Newark, N. J.
- 756,717. Hose drier [for fire department use]. H. J. Schools, Lebanon, Pa. [Illustrated on another page of this issue.]
- 756,770. Bottle closure. E. E. Adams, New York city.
- 756,778. Self filling fountain pen. R. Conklin, Toledo, Ohio.

ISSUED APRIL 12, 1904.

- 756,842. Device for removing water from the hair. Fannie S. Emmons, Richmond, Ind.
- 756,998. Brush [with rubber cushioned head]. G. A. Vickery, Lexington, Mass.
- 757,024. Marking and lettering pen. C. C. Clement, Boston.
- 757,148. Scouring machine for woven fabrics. J. Schweiter, Horgen, Switzerland.
- 757,157. Atomizer. C. L. Turner, Winthrop, Mass., assignor to Davidson Rubber Co., Boston.
- 757,199. Vehicle tire. M. A. Kennady, assignor to Tredair Rubber Co., both of Boston.
- 757,241. Hair curler. N. B. Stone, Outlook, Wash.
- 757,247. Toy [hollow ball, designed to open as a parachute]. G. J. Altermatt, Philadelphia.
- 757,361. Process of rendering leather durable and waterproof. [Leather for shoe uppers is treated on the inner side with rubber solution, then rubbed with talcum powder.] F. Stoffer, Hamburg, Germany.

Trade Mark.

- 42,365. Rubber boots and shoes. Goodyear Rubber Co., St. Paul, Minn. *Essential feature.*—The representation of two elephants harnessed to a boot and pulling in opposite directions. Used since January, 1902.

ISSUED APRIL 19, 1904.

- 757,447. Rocking chair with air apparatus. M. Friedland, Kansas City, Mo.
- 757,468. Brake handle [for motor cars]. C. J. Keplinger, Canton, Ohio, assignor to Canton Hard Rubber Co.
- 757,509. Fountain pen. W. R. Rothwell, Philadelphia.
- 757,543. Fountain pen. M. R. Crossman, Boston.
- 757,600. Golf ball. T. C. Crawford, London, England.
- 757,628. Fountain brush. A. B. Landreth, Bristol, Pa.
- 757,631. Vehicle tire filler. C. B. Nirdlinger, St. Louis, Mo.
- 757,654. Syringe. H. M. Guild, Erie, Pa.; N. J. Maxwell, executor of said Guild, assignor to C. A. Tyrrell, New York city.
- 757,664. Fountain pen. F. M. Kegrize, Philadelphia.
- 757,709. Exercising apparatus [including a punching bag]. G. Voeger, Brooklyn, New York.
- 757,752. Hose coupling. F. W. Killen, Wilmerding, Pa.
- 757,791. Bath spray. V. C. Vant Woud, New York city.
- 757,831. Floor or like brush. F. Neidenbach, assignor of one half to K. Zellner, Fiume, Austria-Hungary.
- 757,877. Hose [with textile layers of special construction]. F. B. Bosch, Philadelphia.
- 757,907. Tooth brush with washing device [comprising rubber bulbs]. F. Fritz, Trieste, Austria.
- 757,923. Vehicle tire [cushion type]. A. C. Hills, London, England.
- 757,929. Hose, rod, or pipe coupling. A. W. Huhman, Staunton, Ill.

Trade Marks.

- 42,424. Fountain pens. F. C. Brown, New York city. *Essential feature.*—The word "Just." Used since Jan. 25, 1904.

- 42,454. Rubber hose and cotton hose. Bowers Rubber Co., San Francisco. *Essential feature.*—The words "Short Horn." Used since June, 1902.

- 42,455. Rubber hose and cotton hose. Bowers Rubber Co. *Essential feature.*—The word "Owl." Used since June, 1902.

- 42,456. Rubber hose and cotton hose. Bowers Rubber Co. *Essential feature.*—The representation of the head of a short horn bull. Used since June, 1902.

- 42,457. Rubber hose and cotton hose. Bowers Rubber Co. *Essential feature.*—The representation of an owl. Used since June, 1902.

ISSUED APRIL 26, 1904.

- 758,054. Flexible drop light tubing for gas lamps and burners. W. S. Edwards, Chicago.
- 758,058. Tire inflator. F. H. Geisler, Dayton, Ohio.
- 758,063. Brush. C. Gruneberg, Pozsony (Pressburg), Austria.
- 758,099. Hose connection. F. H. Paradiée, Denver, Colo.
- 758,155. Hose coupling. G. Stroh, Detroit, Mich.
- 758,168. Hose drier [for fire departments]. C. M. Bowman, Lebanon, Pa.
- 758,185. Storm curtain for vehicles. D. C. Lawless, Toledo, Ohio.
- 758,209. Tire. A. Hendey, Jerome, Ariz.
- 758,336. Pneumatic tire cover. G. T. Shilton and A. Schultze, Westland, New Zealand.
- 758,435. Elastic fabric. H. J. Gaisman, New York city.
- 758,516. Air pump. J. E. Fisher, New York city.
- 758,604. Air cushion for cars. M. Downer, Chicago.

Trade Marks.

- 42,470. Rubber boots, shoes, and sandals. Bentley & Olmsted Co., Des Moines, Iowa. *Essential feature.*—The representation of a diamond shaped figure within a like figure of larger size, and of two stars within the smaller figure. Used since March 20, 1903.
- 42,471. Rubber belting. Gorham Rubber Co., San Francisco. *Essential feature.*—The word "Amazon." Used since Jan. 1, 1900.
- 42,472. Rubber packing. Gorham Rubber Co. *Essential feature.*—The word "Fearless." Used since Jan. 1, 1900.
- 42,473. Rubber packing. Gorham Rubber Co. *Essential feature.*—The word "King." Used since Jan. 1, 1900.
- 42,474. Rubber packing. Gorham Rubber Co. *Essential feature.*—The word "Queen." Used since Jan. 1, 1900.

[NOTE.—Printed copies of specifications of United States patents may be obtained from THE INDIA RUBBER WORLD office at 10 cents each, postpaid.]

GREAT BRITAIN AND IRELAND.

PATENTS APPLIED FOR—1904.

[* Denotes Applications from the United States.]

- 6,270. A. F. N. Powell, Liverpool. Pneumatic tire. Mar. 15.
- 6,291. B. C. Webster, London. Detachable heel for boots. Mar. 15.
- 6,324. J. Lucking, London. Heel pad. (G. Pabst, Germany). Mar. 15.
- 6,329. C. Durand, London. Armored pneumatic tire. Mar. 15.
- 6,471. Robinson Brothers, Limited, and G. A. L. Clift, Wolverhampton. Preparation of rubber solution and subsequent treatment for the conversion of waste into serviceable rubber. Mar. 17.
- 6,490. F. Olai, Aston. Tire pump. Mar. 17.
- 6,509. Marianne C. Bickmore, Oxford. Pneumatic tire. Mar. 17.
- 6,514. L. Azulay, London. Tire fabric, Mar. 17.
- 6,519. Annie C. Burkin, Nottingham. Pneumatic tire. Mar. 17.
- 6,538. J. R. Taylor, London. Pneumatic tire. Mar. 17.
- 6,549. J. F. De Savignac, London. Pneumatic tire. Mar. 18.
- 6,744. R. S. McLaren, London. Pneumatic tire. Mar. 19.
- 6,844. F. R. Wilkins, London. Hot water bottle. Mar. 21.
- 6,895. J. Greenwood and H. James, Sheffield. Heel protector. Mar. 22.
- 6,947. J. and F. N. Ashworth, London. Manufacture of covered elastic cords. Mar. 22.
- 6,931. J. B. Brooks and J. Holt, Birmingham. Hot water bottle fittings. Mar. 23.
- 7,024. A. Cruickshank, London. Revolving heel. Mar. 22.
- 7,161. G. Pilkington, Birmingham. Non skidding pneumatic tire. Mar. 25.
- 7,171. G. H. Winter, Bristol. Non skidding band for tires. Mar. 25.
- 7,172. T. F. Wiley, Bradford. Apparatus for waterproofing fabric. Mar. 25.

- 7,205. C. Most, London. Elastic tire for vehicles. Mar. 25.
 7,213. A. E. Lockyer, London. Waterproof aprons for motor cars. Mar. 25.
 7,230. R. R. Gubbins, London. Prevention of puncture and side slipping tires. Mar. 25.
 7,235. J. R. Van Winkle, London. Boot sole. Mar. 25.
 7,240. H. J. Haddan, London. Means of attaching tire covers. (B. Polack, Germany.) Mar. 25.
 7,242. Emma M. Aulton, Wolverhampton. Deflator for rubber valves. Mar. 26.
 7,357. E. C. F. Otto, London. Elastic tire for motors. Mar. 28.
 * 7,468. F. M. Kegrise, London. Fountain pen. Mar. 29.
 7,475. M. and W. H. Stables, trading as William Eyres & Sons, London. Waterproof fabrics. Mar. 29.
 7,510. W. E. Kimber, Liverpool. Tire inflating pump. Mar. 29.
 7,697. W. Hockley, London. Beer pipe. Mar. 31.

PATENTS GRANTED.

[ABSTRACTED IN THE OFFICIAL JOURNAL, MARCH 30, 1904.]

- 25,822 (1902). Puncture proof inner tube for tires. A. J. Boulton, London (G. F. Brown, New South Wales).
 25,872 (1902). Pneumatic wheel for vehicles. P. Weir, Redland, Bristol.
 25,951 (1902). Resilient tire for vehicles. W. Balassa, Vienna, Austria.
 26,058 (1902). Hand stamp for receipting bills. L. Greimer Voigt, Winterthur, Switzerland.
 26,074 (1902). Revolving heel. T. Moore, Grantham, Lincolnshire.
 26,155 (1902). Golf ball. W. Hillman, Coventry.
 26,182 (1902). Pneumatic tire [having covers with stiffened edges]. Christian H. Gray and T. Sloper, Silvertown.
 26,183 (1902). Fabric for tires. *Same*.
 26,212 (1902). Single tube tire [dovetailed into the felly]. E. H. Seddon, Brooklands, Cheshire.
 26,256 (1902). Pneumatic tire. C. Bürger, Chene Bougeries, Switzerland.
 * 26,259 (1902). Golf ball. E. Kempshall, Boston, Massachusetts.
 26,298 (1902). Pneumatic tire. [Prevention of puncture in the air tube.] G. Tupinier and Baron R. P. de Sennevoy, Paris.
 26,370 (1902). Pneumatic tire [with special fabric]. J. A. Mays, Hampstead, Middlesex.
 26,457 (1902). Pneumatic tire [with metal links to prevent slipping]. S. Butler, Westbury-on-Trym.
 26,524 (1902). Waterproof garment. B. Birnbaum & Sons and H. B. Birnbaum, London.
 26,561 (1902). Boot sole. P. Castets, Paris.

[ABSTRACTED IN THE OFFICIAL JOURNAL, APRIL 7, 1904.]

- 26,576 (1902). Hoof pad. F. Symons, Burwood, New South Wales.
 * 26,597 (1902). Cushion tire. W. O. Worth, Chicago, Illinois.
 26,650 (1902). Non slipping tire. M. Vivian, Chiswick.
 26,730 (1902). Pneumatic tire [with means to prevent creeping]. S. T. Richardson and R. Price, Birmingham.
 26,745 (1902). Pneumatic tire [with means to prevent puncture of inner tube]. R. Smith, Tottenham.
 26,797 (1902). Boot heel. J. Lucking, London. (G. Pabst, Hamburg, Germany.)
 26,814 (1902). Non slipping pneumatic tire. E. A. Stretton, Cheltenham.
 27,098 (1902). Cupping appliance. Société Pharmacie Centrale de France, Paris.
 * 27,135 (1902). Dress shield. H. H. Lake, London. (Canfield Rubber Co., Bridgeport, Connecticut.)
 27,217 (1902). Golf ball. C. H. Gray, Silvertown.
 27,224 (1902). Solid tire. E. Cushing, Dorking.
 27,323 (1902). Pneumatic tire. T. Clarke and J. Harvey, Manchester.

[ABSTRACTED IN THE OFFICIAL JOURNAL, APRIL 13, 1904.]

- 27,358 (1902). Dress shield. M. Maguire, Windsor.
 27,362 (1902). Dress shield. Société Veuve A. Fayaud fils et gendre, Paris.
 27,550 (1902). Pneumatic tire. B. Nadali, Kingston-on-Thames.
 27,642 (1902). Boot heel. A. Briggs, Leicester.
 27,714 (1902). Spray producer. Société Pharmacie Centrale de France, Paris.
 27,798 (1902). Pneumatic tire [with flexible woven metallic lining]. A. E. Schurr, Woking, Surrey.

- 27,811 (1902). Piston packing. J. Ashworth, Dalton-in-Furness, Lancashire.
 27,878 (1902). Apparatus for molding golf balls and the like. P. Dick, Edinburgh.
 27,951 (1902). Pneumatic tire [with metallic means for preventing puncture]. F. and C. McCullough, Fort William, Inverness-shire.
 27,971 (1902). Pneumatic tire. C. Boidot, London.
 * 27,989 (1902). Golf ball. E. Kempshall, Boston, Massachusetts.

GERMAN EMPIRE.

PATENTS GRANTED.

- 154,245 (Class 63c). Manufacture of closed end tubes for pneumatic tires. C. Stoeckicht, Frankfurt a/M. Mar. 23.
 151,700 (Cl. 63c). Protective tread for pneumatic tires, consisting of metal segments. Marie Manuel, Milhausen. Apr. 7.
 151,777 (Cl. 63c). Tires having air chamber in sections. Charles Miller, Binghamton, New York. Apr. 13.
 DESIGN PATENTS GRANTED [GEBRAUCHSMUSTER].
 219,409 (Class 39a). Apparatus for the production of tubing from elastic material. J. Seibt & Becker, Berlin. Mar. 23.
 219,410 (Cl. 39a). Apparatus for the production of tubing from elastic material. *Same*. Mar. 23.
 220,512 (Cl. 3b). Back piece for suspenders, consisting of rubber cords. Frau J. G. Hauße, Pulsnitz. Apr. 7.
 220,449 (Cl. 39a). Fastening device for rubber plating molds. Zeiger u. Wiegand, Leipsig. Apr. 7.
 220,497 (Cl. 47d). Belting covered with rubber on the running side only. Wilhelm Wiegand, Dortmund. Apr. 7.
 220,843 (Cl. 3b). Lady's jacket and skirt, made of rubber covered textile. W. Dresel, Berlin. Apr. 13.
 280,850 (Cl. 3b). Clothing having in various places elastic inserts. J. A. Scriven, New York. Apr. 13.
 220,903 (Cl. 20a). Elastic skid shoe. A. Halfmann, St. Johann a/Saar. Apr. 13.
 220,947 (Cl. 64b). Pipe cleaning bell of rubber, for steam or water pipes. J. Schatz, Crefeld. Apr. 13.

APPLICATIONS.

- 31,946 (Class 30d). Air cushions with adhesive covers adapted to be sewn on the edges. C. T. Hoffmann, Berlin. Mar. 23.

THE FRENCH REPUBLIC.

PATENTS ISSUED (WITH DATE OF APPLICATION).

- 337,468 (Nov. 9, 1903). Couverchel and Billet. Non slipping pneumatic tire cover.
 337,474 (Nov. 11, 1903). J. E. Schmidt. Detachable rubber flange.
 337,488 (Nov. 28, 1903). E. Midgley. Improved tread for pneumatic tires.
 337,521 (Dec. 8, 1903). G. de Knyff. Detachable non slipping tread for vehicle tires.
 337,538 (Dec. 9, 1903). J. M. Piquera. Extensible system of molds for the manufacture of tire covers.
 337,554 (Dec. 10, 1903). A. Pillard. Non slipping protector with metallic lining, for vehicle tires.
 337,663 (Dec. 2, 1903). G. des Michels. New process for manufacture of rubber tubes.
 337,707 (Dec. 9, 1903). S. Butler. Pneumatic tire and rim therefor.
 337,741 (Dec. 15, 1903). C. Beau. Non slipping reinforced band for pneumatic tires.
 337,799 (Dec. 16, 1903). H. Harmel. Manufacture of outer covers for pneumatic tires.
 337,805 (Dec. 16, 1903). A. Tardy. Elastic tire.
 338,867 (Dec. 19, 1903). Pease & Schumacher. Tire and rim for vehicle wheels.
 337,955 (Dec. 22, 1903). W. Maybach. Rubber tire.
 338,048 (Oct. 16, 1903). M. Pontio. Reclamation of rubber.
 338,054 (Oct. 16, 1903). Couval. Anti-slipping device for rubber tires.
 338,081 (Nov. 6, 1903). E. Lacouture. Pneumatic tire and mode of fastening same.
 338,129 (Dec. 26, 1903). E. Simoneton. Anti-slipping pneumatic tire.

[NOTE.—Printed copies of specifications of French patents may be ordered from R. Bobet, consulting engineer, 16, avenue de Villiers, Paris, at 50 cents each, post-paid.]

RUBBER GOODS IN MAIL ORDER TRADE.

BY OUR CHICAGO CORRESPONDENT.

THE great volume of business done by the "mail order" houses of Chicago is realized by few people who are not engaged in it. Chicago is the natural mail order center of this country and of the world, not only because of its location geographically but because it was here that the first of the great mail order houses started in the business of issuing to the trade a catalogue which gave the countryman a price list—which was as low and in many instances a little lower than the home merchant could sell—and utilized the mails instead of salesmen to bring in the orders.

How successful this plan of merchandising has been is shown by the volume of business done by these houses in Chicago last year. One house, I am reliably informed, did a business in excess of \$15,000,000 last year and it is even estimated as high as \$25,000,000. There is another mail order house which does almost as much, if not an equal volume of mail order business. It is possible that the mail order houses of Sears, Roebuck & Co. and Montgomery Ward & Co. do a business amounting to \$50,000,000 a year—a volume equal to that of Chicago's greatest wholesale and retail mercantile establishment, Marshall Field & Co. During December last Sears, Roebuck & Co. did a business amounting to \$3,000,000.

In this immense volume of sales rubber goods of various kinds and description played an important part. Such goods are fast taking a prominent place in the catalogues sent out by these mail order concerns. These two houses alone sold upwards of \$1,200,000 worth of rubber goods during 1903, and they count on increasing that volume of business this year to \$1,500,000 at least.

One of these houses distributed to the mail order trade last year, I am told, more than 2,000,000 feet of garden hose. This exceeds the amount of that class of rubber goods handled by one of the largest hardware concerns of the country. Of course the greater part of this 2,000,000 feet of garden hose is of the cheaper quality, and hence does not run into money as fast as would the better grades, but it indicates the quantity of business that these mail order concerns are doing.

Sears, Roebuck & Co. two or three seasons ago distributed 90,000 bicycles. This means that they sold 180,000 bicycle tires on new wheels alone, not taking into consideration the number of single tires and sets shipped by them on mail orders without the wheels. This business has fallen off, however, and it is probable that last year this same concern did not distribute in excess of 100,000 bicycle tires all told, but the increase in the volume of rubber shoes and other rubber goods has more than offset this loss.

If this house handled anywhere near as much garden hose as did Montgomery Ward & Co. during the last year, the 4,000,000 feet distributed would indicate in a measure the volume of business in other lines of rubber goods. And this in face of the fact that, in the central part of this country, last season and the summer preceding it were exceedingly poor ones for the dealer in garden hose, because the two seasons were exceedingly rainy ones and afforded little use for such an article.

An effort was made to secure from the heads of these two large mail order concerns statements as to the value of the rubber goods sold by each last year, and how these sales were divided among the different classes of goods. The management of these houses, however, jealously guard details against disclosure to the trade or the public. Both President R. W. Sears of Sears, Roebuck & Co., and Vice President W. C. Thorne of Montgomery Ward & Co., gave an estimate of the

total value of the rubber goods distributed by their respective concerns. Mr. Sears said that his concern handled in the neighborhood of \$700,000 worth of all kinds of rubber goods, while Mr. Thorne placed the output of his concern at \$500,000. From the best information at hand it is safe to say that the sales of rubber and combination footwear in each of these establishments amounts to between \$300,000 and \$400,000. This estimate is gathered from jobbers.

But there are other mail order concerns which do quite a business in rubber goods. For instance there is the Mead Cycle Co., which was the first to undertake to establish a foreign branch. This concern, like the two general mail order houses mentioned, had a modest beginning. It grew to be the largest of its kind in the country and when the bicycle demand began to fall off in this country it sought a foreign market for its goods. It distributed between 60,000 and 70,000 pairs of bicycle tires last year according to information given by a tire manufacturer.

This concern is going to set the pace for "all-comers" this year by offering to sell automobiles on the mail order plan. Many dealers and manufacturers shake their head dubiously at this, and prophesy failure in this because, they say that people who buy an automobile will want to inspect the machine before putting as much money into it as the cheapest machine now costs. But it will be remembered that at the time this concern established a branch in Europe and sought a foreign market for bicycles, competing with European factories, there were many doubting Thomases.

While there is a prejudice in the minds of many dealers and manufacturers against the mail order houses, growing out of the fact that their business cuts into that of the small retailers throughout the country, there is also a lesson in their rapid growth which might be of great value. These concerns depend largely upon advertising to sell their goods. It is the publicity given through the purchase of space in various periodicals that has brought the fact to the prospective patron that the mail order house can compete with local merchants and offer goods with a guaranty.

The guaranty is this: To refund the money in full, to return the deposit, and to forward transportation charges whenever a customer is dissatisfied and does not want to keep the goods sent him. Whether the customer has good cause or not is immaterial; if he does not want the goods after inspection, the concern shipping it pays the freight both ways and pockets the loss.

What is the result? That man or woman who allowed it to be returned has received an impression as to the reliability of that mail order concern which is worth more to it than the cost of the freight both ways.

Sears, Roebuck & Co. expend fully \$500,000 a year in newspaper and periodical advertising, not to mention the cost of their large catalogues, which runs considerably more than \$1 apiece in the large quantities which they produce them. It is presumed that the other large concerns expend as much. The result is that one of these concerns recently received in one day 25,000 pieces of mail through the Chicago postoffice.

Mr. Sears, who directs the advertising of his concern and passes upon every "ad" that is put out, says that when he places an advertisement in a periodical he does it for the purpose of reaching those who have never had any dealings with his concern. His motto is "to keep everlastingly after new business."

"It is the constant, careful, methodical watching of results from every small investment in advertisements that assure the success in the aggregate," said he. "It is the fellow with the

second wind who wins the race. Many advertisers get 'cold feet' just about the time success would begin to come their way. When we advertise we are satisfied with the returns which the average advertiser would consider a losing venture. We depend upon the ultimate results, the satisfied customer, his permanent trade and the trade of his friends to make our advertisement pay."

This man started in business with a capital of less than \$1000 twelve years ago. It is said that his house now has 2,000,000 live accounts. This trade has grown from the first customer received through an advertisement, to the present volume, stated above.

F. M. H.

THE DEMAND FOR RUBBER HOOF PADS.

THE condition of the streets in New York during much of the past winter, due to the ice and snow—the latter of which froze and could not be removed promptly—was particularly trying on horses. A reporter for THE INDIA RUBBER WORLD who made some inquiries in regard to the comparative merits of asphalt and granite pavements, under such conditions, and also the advantages from the use of rubber horseshoe pads encountered a variety of opinions.

"I have been driving in New York for twelve years," said the teamster on a big express van, "and I don't find so very much difference between asphalt and other streets. When the street is slippery, from mud or snow and ice, and the horses' shoes are worn smooth, there is always trouble. Of course on a level street and a dry street asphalt is the best, because the load pulls so much easier, and horses are not likely to fall except when they are pulling. When a horse is rough shod I think he stands as good a chance on asphalt as on one of these downtown granite streets. When the tops of the blocks get round, edged from wear, spikes on the shoes nor nothing else will hold on them. Then some horses will stand up where others will fall. These big footed heavy horses used in big trucks fall down much easier than lighter horses with smaller feet. I can't say anything about rubber pads, for we never use them. I don't see how they could be much good on big horses; they would wear smooth so soon from the weight and pull."

The driver of a fire engine, in that section uptown where steep inclines are the rule, said: "The fire department doesn't have a great amount of trouble whether we have to make a run on asphalt or granite. The reason is because our horses are always carefully shod, spikes being put on as soon as the weather is slippery, and because our horses are educated and know how to keep their feet. I have known just about as many engine horses to fall when it was not particularly slippery as when it was. A sudden turn or a twist to pass something will throw a horse, because he isn't looking for it, when he will not fall on a street that he knows is slippery. Green horses fall twice as often as trained ones. I have seen the rubber horseshoe pads used, and I think they are good things. They certainly must take a considerable jar off a horse when he is going on the run—and that's the way we drive—and when the shoes are new they hold the horse up just like a new rubber shoe does a man."

The keeper of a large stable where carriages and light traps are kept for hire, had this to say: "We do not have much trouble with our horses falling, either on asphalt or granite but if the weather is very slippery we do not send horses out unless they have spikes on their shoes, at least behind. The rubber shoes are a good thing but are expensive. We use them sometimes on our roadsters and fancy horses. We can afford to put them on horses that do not go out very often

and when they do are at high rates. We couldn't afford to put them on ordinary carriage and cab horses, that are out half a dozen times every twenty-four hours. But I think it pays for good horses, because the rubber shoe is undoubtedly an advantage and I think it is good economy to take the very best sort of care of a good horse. A bad foot, or a split hoof or a fall on account of improper shoeing, will cost a man more than the extra expense of rubber pads. I use some rubber shoes, but as to the kind, that depends upon the horse."

Speaking of the sale of rubber horseshoes and hoof pads, one of the largest dealers in blacksmiths' supplies in New York said that there seemed to be a steady increase every year. "Last year we sold probably 20 per cent. more pads than the year before. We handle about fifty varieties, and I could not say that any one type was more popular than the others. They are mostly used for carriage horses and light hauling. For the heavy draft horses they are not much sold, although more are being used in that direction now than ever before. They are a great thing to prevent falling on slippery streets, and by being changed and reset can be made to wear for five or six weeks, I would say, however, that a month is about the average wear for a shoe on a carriage horse."

The manager of one of the principal hoof pad companies declared that the sale of his product for the past year was at least 40 per cent. greater than for any previous year. More people seemed to be using rubber as a foot covering for horses and the use was spreading into smaller cities. "There is no doubt," said he, "about the use of the pad being an increased demand for rubber. This is not only true on account of the increased number sold but also because experience has taught that a paying pad cannot be placed on the market unless plenty of good rubber is used. There have been very many cheap pads made and almost every man who has tried it has either gone out of business or gone broke. A pad made of good rubber and properly constructed is a good thing but it is not cheap."

The manager of a company selling rubber horseshoes said: "I think it safe to say that four times as many horses are wearing rubber pads and shoes as was the case five years ago. Our rubber shoe is not a pad, and it came in after the pad had become well known, but we sold last year in the eastern territory alone more than 100,000 pairs. The fact is that our orders have been ahead of our capacity to fill them. I understand that the same has been largely true with the pad people. People are beginning to recognize that in spite of the fact that a pair of good shoes or pads cost from \$1.15 up it is true economy to buy them. Of course they are sold mostly for icy streets in winter but many concerns use rubber on their horses feet for seven months in the year. We export quite a number of rubber shoes to Havana, where there is never any ice. They have asphalt streets there and the moisture and mud make them slippery. The large cities are of course the principal buyers, but small places are becoming interested and even some well to do farmers are having their good horses protected. Carriage and cab horses are the chief users, and light delivery wagons. Some sort of protection is almost indispensable for the milkman, for instance, for early in the morning the streets are much more slippery than at other times and the early delivery of milk is a necessity."

RUBBER TILING.—The new courthouse at Syracuse, New York, is to be floored with rubber tiling, instead of marble, as at first contracted for. A member of the building committee stated that he had seen rubber tiling after long use in public buildings, and that it showed no effects of wear, while marble in the same circumstances was deeply worn.

NEWS OF THE AMERICAN RUBBER TRADE.

IMPERIAL RUBBER CO. (BEACH CITY, OHIO)

THE Canton Hard Rubber Co. have removed from Canton to Beach City, Ohio, and absorbed the concern known as the Tuscarora Rubber Co., at the latter place. The combined business is to be incorporated as the Imperial Rubber Co., with \$100,000 capital, and the output is intended to embrace a full line of soft rubber goods—surgical supplies, bicycle and carriage tires, matting, tubing, hose, etc.—in addition to rubber covered harness mountings which have been the specialty of the Canton Hard Rubber Co. The latter company was incorporated May 17, 1899, with \$50,000 capital. Claude J. Keplinger, secretary and manager, reported recently that the company expected to be at work in the new location by June 1.

IMPROVEMENTS AT THE CANDEE FACTORY.

THE rubber shoe factory of the L. Candee & Co. (New Haven, Connecticut) was closed on the last day of March, not only for the annual repairs and stock taking, but to allow of alterations and improvements to an important extent. There has recently been installed a 180 HP. General Electric motor to replace the 150 HP. George H. Corliss engine previously used to drive machinery in the rubber wash cellar and carpenter and machine shops. There have now been installed two Westinghouse tandem compound Corliss engines, rated at 1400 HP., with a maximum of about 2700 HP., to replace two George H. Corliss engines of 1100 rated HP. The entire plant will be run condensing instead of noncondensing as heretofore, which has been accomplished by securing rights to lay 1400 feet of 20 inch pipe to Mill river. To operate a Bulkley injector condenser the company have erected a pumping station opposite their mill on East street, with a Worthington centrifugal pump driven by a 65 HP. motor. It is expected that upon completing these plans a material increase of efficiency will be secured. Work has been pushed night and day, and it is hoped to resume manufacturing about the middle of June.

TRENTON RUBBER MANUFACTURING CO. IN CHICAGO.

THE Trenton Rubber Manufacturing Co. (Trenton, New Jersey) have removed their Chicago warehouse and offices from No. 20 South Canal street to No. 183 Lake street, making the seventh mechanical rubber goods house on one block. The new store is fitted up in the most improved manner for the accommodation of the large stock of belting, packing, and hose which the company are forced to carry to meet the demands for their increasing business in the West. Mr. F. B. McIlroy, the manager, who opened the Chicago branch a little more than three years ago, visits personally the trade throughout the West as far as the Pacific coast, and from British Columbia to the City of Mexico.

NEW RUBBER SUNDRIES FACTORY.

THE M. Lindsay Rubber Manufacturing Co. have begun the manufacture of the line of rubber sundries which they have been marketing so successfully for a number of years past. The location of their factory is at Broadway and Academy street, Astoria, which is in the borough of Queens, New York city, and is readily reached from the heart of the city by crossing the East river at Thirty-fourth street. The offices of the company, maintained formerly at No. 298 Broadway, in Manhattan, have been transferred to the factory. Among the goods made are the "Agnota" brand of rubber gloves, the company's patented line of nipples, and the "vest pocket

punching bag." The M. Lindsay Rubber Co. existed for several years as a jobbing house in New York and at Washington. Under the present title the company was incorporated November 27, 1903, under the laws of New York, with \$150,000 capital.

NEW ENGLAND RUBBER CLUB COMMITTEES.

THE Executive Committee of the New England Rubber Club have appointed the following committees to which, as members *ex officio*, should be added the name of the secretary, treasurer, and assistant secretary of the Club:

Committee on Dinners.—F. H. Jones, chairman; William Keyes, Ira F. Burnham, Eugene H. Clapp, O. A. Barnard.

Entertainment Committee.—George H. Mayo, chairman; E. S. Williams, W. F. Farwell, Edgar E. Fay, R. L. Rice.

Committee on Resolutions.—Arthur W. Stedman, E. E. Wadbrook, George P. Whitmore.

Auditing Committee.—George P. Eustis, J. Frank Dunbar.

Sports Committee.—W. E. Barker, chairman; F. C. Hood, R. L. Chipman, F. D. Balderston, James H. Learned.

DAYTON RUBBER CO. (DAYTON, OHIO.)

THE trade mark adopted for the mechanical rubber products of this new company represents the leaf of a rubber tree, on which is cut the word "Dayton," the whole presenting a pleasing appearance, especially when the leaf is printed in green. Besides, the device is simple, and easily remembered.



NEW CENTURY RUBBER CO.—CLAIMS SETTLED.

NORMAN GREY, of Camden, New Jersey, receiver of the New Century Rubber Co., has mailed checks to creditors for 51 per cent. of their claims, this being the first and final distribution, under the order of the court. The company was incorporated January 7, 1901, to reclaim rubber by a new process, with works at East Burlington, N. J. It was adjudged insolvent August 22, 1903, and Mr. Grey appointed receiver.

NORFOLK RUBBER CO. (BOSTON) ASSIGN.

THE Norfolk Rubber Co. (No. 91 Bedford street, Boston), manufacturers of mackintoshes and coats, on May 14 made an assignment for the benefit of creditors to Leonard G. Roberts, of Boston. It is stated that the assignment was caused by the dull season and the inability to collect outstanding accounts. The company was incorporated in 1892 under Maine laws, and its capital was reported recently at \$15,800. Charles E. Morse is president and William H. Wilder, Jr., treasurer.

WHERE AN EMPLOYER WAS NOT TO BLAME.

THE circuit court at Akron, Ohio, has rendered a decision of general importance to rubber manufacturers and their employes. Addison McClurg, an employe of the Diamond Rubber Co., sued that company in the court of common pleas for \$20,000 for damages for personal injuries received in their plant on February 21, 1901. He alleged that while engaged in mixing rubber in one of the company's mills his left hand was caught in the rollers and mangled so badly as to make amputation necessary. He claimed that the accident was due to the negligence of the company, alleging that he was not familiar with the work and that the foreman had failed to warn him of the danger. He was given a judgment in the common pleas for \$3000, but the higher court reversed the decision, holding

that McClurg was responsible for the accident in that he failed to keep his hands above the rollers as he had been instructed. As such an accident had never happened before, the court held that the company were not bound to guard against it. "It is not negligence on the part of a master to fail to instruct an employé to avoid an injury which the master had no right to expect would happen," said the court. "It is only to the injuries that is likely to occur that he is bound to anticipate and guard against. The danger was obvious. He needed no instructions to keep his hands from the rollers. He disregarded his instructions and cannot recover."

REBUILDING OF A RUBBER PLANT.

THE contract for rebuilding the Plymouth plant of the Boston Woven Hose and Rubber Co. has been awarded to Ernest L. Sampson, of Plymouth. This plant was partially destroyed by fire in January, with a loss of much valuable machinery. The large brick building is intact, and in addition to repairing the wooden buildings, a new brick structure, 40x80 feet and four stories high, has been planned, to be used as part of the reclaiming works. A new devulcanizer house for the large heaters will also be built. The new buildings will be of the most approved fire proof construction. A complete system of fire protection will be installed, including automatic sprinklers to be supplied from a 25,000 gallon tank placed on a steel tower 15 feet higher than the highest sprinkler head. An Underwriters' pump of 750 gallons per minute capacity will be connected with tank, sprinklers, and fire hydrant. The boiler house, which supplies steam for running the plant, has been rendered thoroughly fireproof. A new 100 horse power boiler has been added to the one already in use. The steam generating plant is used as an auxiliary to the water power which runs most of the machinery of the mill. It was the exceptional water power facilities at Plymouth which induced the company to establish their plant here. A series of turbine wheels convey the power from the tributary ponds and streams, which furnish an economical and never failing source of supply.

The new building will be devoted to the reclaiming of rubber. In this building will be the grinders, the separators, tanks, and washers used in the various processes of reclaiming. The rubber will be carried from one department to another by conveyors. So many labor saving appliances will be introduced that a small number of men can do the work that a few years ago would have required a large force of operatives. A part of the plant is devoted to the manufacture of linen fire hose, which is woven on specially constructed looms. Other looms weave the cotton duck for the company's special grades of hose or belting.

The Boston Woven Hose and Rubber Co. is one of the few rubber companies that manufacture every part of their product, taking rubber in the crude stage and the cotton before it is twisted into strands for weaving, and turning out the completed hose, belt, or other mechanical rubber goods.

THE GUTTA PERCHA COMPANY AFTER THE FIRE.

THE illustration on this page shows how complete was the ruin of the warehouses and general offices of the Gutta Percha and Rubber Manufacturing Co. of Toronto, Limited, at Nos. 45, 47, and 49 West Front street, Toronto, in the great fire of April 19. As indicated in our last issue, however, the completeness of this ruin, though representing \$500,000 in money, has not had the effect of interfering with the business of the company. One of their largest customers wrote to the firm ten days after the fire:

We might say, that so far as our orders from day to day are concerned, they have practically been delivered as heretofore, with almost no delay,

and had we not read of the fire, we would hardly be aware from any inconvenience that we are suffering, that one had taken place.

The fire started at about 8 P. M. some two blocks from this building, and when President H. D. Warren arrived on the scene a little later there were hopes that the property could be saved. He promptly turned on the electric lights throughout the premises, so as to attract any of the office staff who might come down town, of whom there were soon a dozen on hand. It was soon seen, however, that the building was doomed, and an hour was spent in filling the vaults with such things as might be serviceable in continuing the business, special vaults having been built several years ago in anticipation of a destructive fire. All the books, records, letter files, and documents of the company were regularly kept there, but on the night in question the contents of every desk throughout the building was systematically placed in the vaults and thus escaped destruction. The company have now in hand all the current memoranda so valuable in carrying on business. They saved for instance, all fire hose record threads and many other such things that would not ordinarily be kept in a vault. This work was kept up until Mr. Warren and his clerks had been repeatedly warned to leave the building, and they closed the vaults at the last moment at which it was possible to escape with their lives. No attempt was made to save any merchandise, but, being insured fully, the company are not concerned in this regard. There has never been a time before when the company were so well fixed to replace the burned stock. Their third new and largest mill room, with its 1000 HP. engine, is completed and running. They have never before had such a large supply of crude rubber, cotton, reclaimed rubber, and ingredients generally. Besides, for the first time in some years they have a large reserve of coal, so that everything is propitious for a large and speedy output, besides which their factory force of 600 and their office staff of 60 are working enthusiastically to offset any inconvenience caused by the fire. While the fire was raging the company's chief engineer quietly contracted for 1,000,000 brick and for the first call on the services of two of the largest mason and carpenter contractors. Before midnight temporary offices had been arranged for, at No. 15 Wellington street, East, and by 10 the next morning the clerical force was at work, while goods were being shipped in from the factory. It is understood that the work of rebuilding will be postponed, however, on account of certain requirements in the new building laws and the disposition of the insurance companies to advance rates.



AMERICAN RUBBER CO.

THE American Rubber Co. (Boston) during the past two years have filed certificates of condition with the commissioner of corporations of Massachusetts, showing details as follows:

ASSETS.		
	Mar. 31, '04.	July 6, '03.
Real estate.....	\$ 174,214	\$ 185,904
Machinery.....	148,617	136,927
Stock in process.....	1,651,009	1,174,254
Cash and debts receivable.....	422,675	839,780
Special contract with U. S. Rubber Co.....	800,000	800,000
Miscellaneous.....	22,000	22,000
Totals.....	\$3,218,515	\$3,158,865
LIABILITIES.		
Capital stock.....	\$1,000,000	\$1,000,000
Accounts payable.....	47,553	17,014
Floating debt—special.....	800,000	800,000
Surplus fixed.....	865,734	865,734
Profit and loss.....	505,228	436,117
Dividends unpaid.....	.....	40,000
Totals.....	\$3,218,515	\$3,158,865

WOONSOCKET RUBBER CO.

THE Woonsocket Rubber Co. (Woonsocket, Rhode Island), having one of their factories over the Massachusetts border, are required to file annual reports with the commissioner of corporations of the latter state. The last report so filed, showing condition on March 31, 1904, is summarized below, in connection with which are the figures for the preceding year:

ASSETS.		
	1904.	1903.
Real estate.....	\$ 896,778	\$ 897,543
Machinery.....	324,135	324,135
Stock in process.....	2,210,944	1,640,297
Cash and debts receivable.....	157,957	3,411,307
Taxes, etc.....	711	1,189
Adjustment of inventory.....	1,198,994	1,198,994
Special contract with U. S. Rubber Co.....	2,800,000	.....
Totals.....	\$7,588,619	\$7,473,466
LIABILITIES.		
Capital stock.....	\$3,000,000	\$3,000,000
Debts.....	31,099	2,905,995
Special indebtedness.....	2,800,000	.....
Surplus fixed.....	1,613,900	\$1,613,900
Profit and loss.....	143,620	53,567
Totals.....	\$7,588,619	\$7,473,466

BOSTON RUBBER SHOE CO.

THE Boston Rubber Shoe Co. have filed the following statement of condition with the commissioner of corporations of Massachusetts, dated April 1, 1904:

ASSETS.		
	1904.	1903.
Real estate.....	\$ 768,525	\$ 758,525
Machinery.....	375,515	364,788
Merchandise and stock in process.....	4,461,304	2,626,837
Cash and debts receivable.....	1,594,294	2,288,675
* Special Contract U. S. Rubber Co.....	4,800,000	4,800,000
Miscellaneous.....	17,390	17,430
Total.....	\$12,017,028	\$10,856,255
LIABILITIES.		
Capital stock.....	\$ 5,000,000	\$ 5,000,000
Accounts payable.....	1,130,960	.....
Funded indebtedness.....	4,800,000	.....
Balance profit and loss.....	1,054,872	996,965
Debtenture bonds.....	.....	4,800,000
Interest on bonds.....	31,196	59,290
Total.....	\$12,017,028	\$10,856,255

*To pay principal and interest of debtenture bonds as they may mature to be drawn.

AMERICAN CHICLE CO. IN EUROPE.

HENRY ROWLEY, treasurer, on April 30 returned from Europe, where it is understood that he arranged to establish a European branch, on terms which the directors deem eminently satisfactory. The plans embrace the opening of a factory, for which purpose a plant in London occupied formerly by The Holbrook Co., Limited, has been secured. The extent of the exports of American chewing gum is thus indicated by the United States customs returns for the fiscal year 1902-3:

Great Britain.....	\$12,302	British Australia.....	\$ 1,415
Other Europe.....	1,074	Philippine Islands.....	197
Africa (mainly British South).....	8,550	All other.....	763
North America.....	2,941	Total.....	\$27,242

While not so stated, it is assumed that these exports relate mainly to the product of Chicle gum. The following figures, from the customs returns, indicate the extent of the use of Chicle in the United States:

	1901-02.	1902-03.
Imports for consumption (pounds).....	2,865,929	3,282,804
Import value.....	\$682,602	\$779,140
Duties (10 cents per pound).....	\$286,593	\$328,280
Average value per pound.....	23.8 cents	23.7 cents
Average rate of duty <i>ad valorem</i>	41.99%	42.13%

In addition to imports for consumption, the receipts in the United States include the supplies of crude gum required in Canada, where the American Chicle Co. have a factory. The exports from the States to Canada for the last fiscal year were 897,675 pounds.—The regular monthly dividend of 1 per cent. on the common shares (\$6,000,000) was payable on May 25. The last quarterly dividend of $1\frac{1}{4}$ per cent. on the preferred shares (\$3,000,000) was paid April 1.

RUBBER FOOTWEAR FOR THE POOR INDIANS.

BIDS were opened at St. Louis, on May 5, for supplying rubber boots and shoes for the Indians dependent upon the government. The successful bidder—except for the last item on the list as printed below—was J. Edmund Strong, of Chicago, whom we understood to represent the Edwards-Stanwood Shoe Co., of that city, who obtained the contract last year for supplying such goods:

2845 pairs boys' arctics; sizes 1-2, $70\frac{1}{4}$ cents; 3-6, 88 cents.
990 pairs misses' arctics, 61 cents.
1655 pairs women's arctics, 76 cents.
1380 pairs men's arctics, \$1.04.
485 pairs boys' rubber overshoes, sizes 1-2, $35\frac{1}{2}$ cents; 3-6, 44 cents.
555 pairs misses' rubber overshoes, 31 cents.
1370 pairs women's rubber overshoes, 38 cents.
342 pairs men's rubber overshoes, 54 cents.
588 pairs men's rubber boots, \$2.29.

RUBBER GOODS FOR THE POSTAL SERVICE.

BIDS were opened in Washington on May 5 for supplies of stationery for the Postoffice department and the postal service—including India-rubber goods—for the fiscal year beginning July 1, 1904. Fewer rubber bands are called for than formerly, and more rubber stamps. The specifications included 5800 pounds of bands, 17,256 erasers, and a total of 65,000 rubber stamps, in great variety, in addition to a large amount of rubber type. Five years ago (fiscal year 1899-1900) there were required 9000 pounds of bands, 10,600 erasers, and 10,160 rubber stamps of all kinds. The specifications this year also include 7000 flexible stamps, of printers' roller composition, to contain such words as "Due 2 cents," "Returned to writer," and the like, and some to contain the name of postoffice and state. Besides, 75 dies and molds are called for, to be used in making printers' roller composition stamps at the Postoffice department.

The requirements for composition stamps, by the way, are smaller than for the past two years, in each of which 10,000

were called for. Previously none were specified. A leading manufacturer of rubber stamps in New York asserts that his trade has nothing to fear from the competition of composition stamps; that such stamps were thoroughly tested years ago and found to lack merit; and that the government buys them solely because of their low cost.

PRICES OF RUBBER STAMPS.

It is asserted in the rubber stamp trade that it is impossible to advance prices of products, to meet the increased cost of rubber. But rubber is not the item of chief cost in such work; other materials enter to a large degree into it, and the labor cost is large. One manufacturer says that a certain grade of stamp rubber used by him costs 73 per cent. more than it did five years ago, but that by improved methods and by reducing the waste of rubber, the net cost of his material is very little more.

RECEIVER FOR ROYAL RUBBER WORKS CO.

In the supreme court at Hartford, Connecticut, on May 19, Frederick W. Starr was appointed receiver for The Royal Rubber Works Co., of that city. The motion for a receivership was made by the Fairfield Rubber Co. and other creditors. The company was incorporated November 2, 1903, with \$4000 capital, to do a jobbing trade in rubber goods, with hospital supplies a specialty.

NEW YORK STOCK EXCHANGE TRANSACTIONS.

UNITED States Rubber Co.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Apr. 23	8,750	15	12½	16,622	64½	57
Week ending Apr. 30	19,520	17½	14½	7,440	65½	62½
Week ending May 7	8,295	18½	16	3,642	68	64½
Week ending May 14	1,249	16½	15½	1,215	65½	64½
Week ending May 21	2,870	16½	15½	3,730	68	65

RUBBER Goods Manufacturing Co.:

DATES.	COMMON.			PREFERRED.		
	Sales.	High.	Low.	Sales.	High.	Low.
Week ending Apr. 23	1,626	16½	15½	100	76½	76½
Week ending Apr. 30	400	16½	16	100	77	77
Week ending May 7	400	16½	15½	420	77	76½
Week ending May 14	400	16	15½	100	77½	77½
Week ending May 21	1,110	15½	15	100	77	77

RECEIVERS FOR VICTOR RUBBER CO.

CREDITORS of the Victor Rubber Co. (Springfield, Ohio), having filed a petition in bankruptcy against that concern, and asked for the appointment of a receiver, Judge Thompson, in the United States district court, at Cincinnati, on May 4, appointed as receivers Emery J. Smith, of Columbus, and George W. Collett, of Springfield. No statement of the company's financial status was issued, but it was understood that the receivers would take charge of the factory (at Snyderville, Ohio) as soon as possible, and at least complete the finishing of goods in process of manufacture. Following the petition against the Victor Rubber Co., a petition in bankruptcy was filed against John S. Harshman, president of the company, and its heaviest stockholder. Mr. Harshman has been interested in various other local enterprises, with the result of becoming heavily involved. Rending the proceedings noted above, sixteen suits, for sums aggregating over \$110,000, were filed against the Victor company, or Mr. Harshman, or both. Most of them were filed by banks, but three

were on claims of crude rubber merchants.—The Victor Rubber Tire Co. was incorporated in June 1895, to market the "Victor" tire, patented by Theodore B. Blosser, and reorganized in March, 1898, with Harshman at its head. The company had several branches at which the tires made for them were applied to wheels, but no goods were made by them until 1898, when a second company was incorporated, under the name Victor Rubber Co., to make the tires required by the former company, with the addition of some mechanical goods. It was reported in THE INDIA RUBBER WORLD of April last [page 248] that this business had been reorganized, George G. Peckham, of Dayton, Ohio, succeeding to Mr. Harshman's interest and official position, but for reasons not stated publicly Mr. Peckham and his associates soon withdrew, leaving the former head of the business in control.

RUBBER GOODS MANUFACTURING CO.

THE directors of this company, at a meeting on May 30, declared the twenty-first regular dividend of 1¼ per cent. on the preferred shares, out of earnings, payable June 14, to shareholders of record on June 3. Transfer books will be closed between the dates mentioned.

REPUBLIC RUBBER CO. (YOUNGSTOWN, O.)—BRANCHES.

MR. L. J. LOMASNEY, formerly of New York, and now vice president and general manager of the Republic Rubber Co., reports the opening by that company of a branch store in Chicago, at No. 116 Lake street. This is one of the handsomest rubber stores in Chicago. The tire department is in charge of F. A. Hastings and the mechanical lines in charge of J. H. Kelly. Also, a branch store has been opened in St. Louis, for distributing and applying tires, under the management of George M. Hoffman, who has an extensive and valuable acquaintance with the trade.

ADVANCE IN RUBBER SHOE PRICES.

ON June 1 the new discount rate of the United States Rubber Co. goes into effect. That is, an extra 5 per cent. allowed on orders received before that date has been withdrawn. The discounts now are—

First quality (except Woonsocket and Meyer).....25 @ 3 %
Woonsocket and Meyer brands.....25 @ 5 @ 3 %
Second quality (except Rhode Island).....25 @ 10 @ 3 %
Rhode Island brand.....25 @ 10 @ 5 @ 3 %
Colonial brand.....45 %

Canadian rubber footwear lists were also subject to an extra discount of 5 per cent. up to June 1, which is now withdrawn.

GENERAL RUBBER CO. TO IMPORT RUBBER.

THIS company was incorporated March 24, 1904, under the laws of New Jersey, with \$2,000,000 capital authorized (of which \$1,000,000 is stated to have been paid in), to buy and sell, import and export, India-rubber, Caucho, Gutta-percha, and other like gums; to acquire and develop rubber forests or plantations; to deal in all kinds of merchandise incident to trading in rubber and exploiting sources of rubber; and to engage in the business of transportation as needed for carrying out the general purposes of the company. The incorporators named are Edward A. Day, Morristown, N. J.; William D. Kellogg, Elizabeth, N. J.; Jerome T. Congleton, Newark, N. J. The registered office in New Jersey is at No. 765 Broad street, Newark, and the agent of the company therein is Edward A. Day. The company has organized with Samuel P. Colt, president; Lester Leland, vice president; John J. Watson, Jr., treasurer, and an executive committee consisting of Messrs. Colt and Leland and E. C. Benedict. The stock of the company is owned by the United States Rubber Co. and the general offices are located in the same building with that company, No. 42 Broadway, New York. This company has been formed for carrying

out the new policy outlined in the recent report of the United States Rubber Co., of importing direct their requirements in crude rubber.—Direct imports of crude rubber by the United States Rubber Co., since July 1, 1903, according to the statistics published monthly in THE INDIA RUBBER WORLD have amounted to 6,484,200 pounds of Pará sorts and 2,400,500 pounds of Africans.

AFFAIRS OF GEORGE WATKINSON & CO.

A MEETING of the creditors of George Watkinson & Co., the bankrupt rubber shoe manufacturers, in Philadelphia, on May 20, adjourned without any definite action, and with the understanding that another meeting would be called soon. Lawyer William M. Ivins, of New York, who appeared in behalf of Heilbut, Symons & Co. (said to be the largest creditors), stated that soon after the sale of the business of Watkinson & Co. was confirmed, on January 20, 1904, it was learned that the estate was likely to yield much less than was at first expected. Hence a committee was formed, in behalf of the creditors, consisting of Edward S. Hatch, for William Wright & Co.; C. O. Mayer, for O. G. Becker & Co.; and Mr. Ivins, for Heilbut, Symons & Co., to examine the accounts of the estate. The meeting above mentioned was called to hear the report of the committee, who presented a petition, prepared by Mr. Ivins, asking for the removal of the trustee—The Provident Life and Trust Co.—and the sur-charging of its account. The report stated that the committee had found "not only an ordinary, but a very gross maladministration by those who are charged by the court with the protection of our interests." Mr. Ivins declared that after a creditors' meeting in April last, when the trustee was given authority to borrow not more than \$75,000, the latter never went to the court or to the creditors for further authority, but steadily went along to extend his liabilities until they amounted to upwards of \$202,000. In order to get this amount back in the treasury without letting the creditors know that the business was losing money, Mr. Ivins contended the trustee actually expended \$87,000 in manufacturing goods which afterwards sold at a figure \$54,000 less than the actual cost of production, thus causing an actual loss to the creditors, he said, of \$141,000. There was much discussion over the adoption of the report, but without result. No date was fixed for the adjourned meeting.

THE INDIA RUBBER WORLD'S Philadelphia correspondent reports: "The Watkinson factory, at Thirty-sixth and Reed streets, has been sold to Mitchell and Pierson for \$92,500, subject to ground rents aggregating \$1830. The properties cover an area of about 500 feet square with a large frontage on the Schuylkill river. After the buildings are thoroughly overhauled they will be occupied by the purchasers as a glazed kid manufactory."

THE RUBBER TRADE IN CHICAGO.

BY A RESIDENT CORRESPONDENT.

WEATHER conditions during the last month have not been in the least to the liking of the rubber tire and garden hose dealers. The latter part of April promised well for good weather during May, but while May opened up with fine weather it lasted only two days before the temperature fell. Cold, threatening and frequently rainy weather predominated during the greater part of the month. This seriously interfered with automobiling and the automobile tire trade. The wet season also resulted in further delay by the consumer in laying in garden hose.

The last week of May, however, ushered in some genuine spring weather. Local managers of the Goodrich, Goodyear, Diamond, Hartford, and other tire manufacturers have had a

taste of the kind of season they had hoped for earlier in the year, though it will be impossible for them to make up the loss caused by the unfavorable weather during April and May.

In mechanical rubber lines, business has been good. While there has been a slight let up during May as compared with the volume of business done during April, the May showing will be a little above the average. Several good contracts have been landed by managers of local branch houses. R. T. Whelpley, manager of the Chicago branch of The B. F. Goodrich Co., secured a good contract this month from the United States Steel Corporation for conveyor belting.

The bicycle tire business has shown a still further falling off as compared with that of last year. The motorcycle fad which was to a certain extent expected to lead to a revival of bicycle riding has not materialized in Chicago and the west. There has been very little increase in numbers of those using the motorcycle.

The demand for bicycle tires, according to local managers, should average, year in and year out, about the same. It is the country trade that regulates that demand in Chicago and the west. Eight years ago the city trade took the great bulk of bicycle tires but when the craze for bicycle riding died out in the cities the bicycle began to be adopted in the country towns as a means of locomotion. The cheapness of the wheels caused this demand to extend to the farmer boys and this demand in the smaller towns in the country has continued.

In the footwear line business has been exceedingly good for this time of the year. The announcement of another 5 per cent. advance by the United States Rubber Co. has caused customers to rush in their detailed orders during the last two or three weeks. While business among the jobbers in the rubber shoe line is quiet, the manufacturers and their agents have no cause for complaint.

NEW INCORPORATIONS.

THE Seamless Rubber Glove Co. (Akron, Ohio), May 14, 1904, under Ohio laws, to manufacture rubber gloves; capital, \$25,000. Incorporators: Jacob Pfeiffer, William F. Pfeiffer, S. G. Rogers, A. J. Rowley, and J. A. Bradley. The company has no direct connection with the Miller Rubber Manufacturing Co. (Akron), though owned by the same interests. Mr. Pfeiffer informs THE INDIA RUBBER WORLD that the new company has been organized for the purpose of jobbing certain rubber goods that are not made by the Miller company.

—The Duplex Rubber Co. (Cleveland, Ohio), May 7, 1904, under Ohio laws; capital, \$10,000. Incorporators: Norton F. How, H. J. Caldwell, C. L. Denton, A. R. How, and H. H. Ollyn.

—The Nailless Rubber Horseshoe Co., May 2, 1904, under Colorado laws; capital, \$100,000. Incorporators: Frank A. Burnell, Joseph A. Osner, Frank A. Pattee—all of Denver, Colorado.

—The Chamberlin Rubber Co. (Rochester, N. Y.), April 22, 1904, under New York laws, to sell rubber goods; capital, \$20,000. Directors: James R. Chamberlin, Jane Chamberlin, George F. Nelson. To continue the business of retailing and jobbing rubber goods established in Rochester by Mr. Chamberlin many years ago.

—Old Colony Rubber Co. (Jersey City, N. J.), May 22, 1904, under New Jersey laws, to manufacture India-rubber and Gutta-percha goods; capital, \$125,000. Incorporators: Charles N. King, Le Grand Bouker, W. Monds Greene—all of Jersey City, Office: No. 243 Washington street, Jersey City.

—The Overland Rubber Co., May 17, 1904, under Colorado laws; capital, \$10,000. Incorporators: Cyrus B. Tullis, Charles C. Collins, and Walter S. Tullis—all of Denver, Colorado.

A. W. FABER SUES A RUBBER COMPANY.

SUIT has been filed in the United States circuit court for the district of New Jersey, against the C. Roberts Rubber Co., of Newark, by Otilie von Faber-Castell and Alexander von Faber-Castell, trading as A. W. Faber, in Germany and New York, alleging infringement of the plaintiff's trade rights in the manufacture of lead pencils, erasive rubber, and rubber bands. The complainant avers that the C. Roberts Rubber Co. sell their product of stationers' rubber goods only to the firm of Eberhard Faber, in New York, which firm owns a majority of the shares of the Roberts company, and that the said goods are manufactured in imitation of those of A. W. Faber, and are put up under labels similar to those of the complainant. The bill recites that on May 11, 1901, the plaintiffs sued in the United States circuit court in the southern district of New York, for an injunction to restrain the firm of Eberhard Faber from using the name "Faber" without some distinguishing prefix, as "Eberhard," and that such injunction was granted. Notwithstanding the decision in the former suit, it is alleged that the Roberts company, with J. Eberhard Faber as its principal stockholder, is violating the terms of the injunction.

TRADE NEWS NOTES.

THE Fire Hose department of the Boston Woven Hose and Rubber Co. has been placed in charge of Mr. P. G. Alexander, who succeeds Mr. J. M. Hardy. The company will continue to make the same grades of cotton and rubber fire hose as heretofore, and the same high standard will be maintained. The many cities and towns throughout the Union where the fire hose of this company is in use are the best evidence of the appreciation in which it is held by fire departments and chief engineers.

=R. C. King has become manager of the St. Louis branch of the New York Belting and Packing Co., Limited. Mr. King was previously for 10 years connected with this company as a traveler, after which, for four years, he had charge of The B. F. Goodrich Co.'s branch house at Wilkesbarre, Pennsylvania.

=Mr. Alonzo P. Spear has been appointed manager of the Boston selling branch of the Gutta Percha and Rubber Manufacturing Co., at No. 71 Pearl street. Mr. Spear was connected formerly with the Boston Woven Hose and Rubber Co.

=It is understood that the suit of the Gutta Percha and Rubber Manufacturing Co. against the Peerless Rubber Manufacturing Co., for alleged infringement of patent No. 543,583 on rubber floor tiling, granted to John Murphy July 30, 1895 [see THE INDIA RUBBER WORLD, November 1, 1903—page 59] has been settled out of court.

=The Inter-State Rubber Co., jobbers of rubber footwear, Omaha, Nebraska, in addition to their store at No. 1109 Harney street, have leased the building Nos. 1206-1208 Douglas street, for storage purposes.

=The Akron Dental Rubber Co., mentioned in the last INDIA RUBBER WORLD as having been incorporated by Arthur C. Squires and his associates, will build a factory at Akron, Ohio. The capital named is \$25,000.

=The annual meeting of the Consolidated Rubber Tire Co., scheduled to take place in Jersey City on May 2, was adjourned until June 2.

=The factory of the Goodyear Rubber Co., at Middletown, Connecticut, resumed work on May 13.

=It is reported that the plant of the Cable Rubber Co. (Jamaica Plain, Massachusetts), purchased recently by the Reading Rubber Manufacturing Co., has been sold by the latter to the Clifton Manufacturing Co. (Boston), who will probably resume the operation of the plant.

=The Laurel Rubber Co. have removed from Passaic, New Jersey, to New York city, their office being located at No. 346 Broadway, and their factory at Nos. 556-560 West Twenty-fifth street. The company was incorporated early in 1903, and has been engaged in making erasers and other stationers' supplies. It is now intended to take on other lines of production.

=Wilmer Dunbar, for some years past superintendent of the Alden Rubber Co., has accepted a position as assistant superintendent with the Chicago Electric Hose Co. (Wilmington).

=The I. B. Kleinert Rubber Co., whose Toronto factory, at Nos. 26-28 Front street, was destroyed by the recent fire, were insured to the extent of \$24,000. Their new address is No. 1487 King street, West, Toronto.

=The Stodder tire, the essential feature of which is a specially treated fabric, intended to lessen liability to puncture, is now manufactured by the International Automobile and Vehicle Tire Co. (Milltown, New Jersey).

=The T. S. Buck Manufacturing Co. (New York), mentioned in our last issue as a new corporation under New York laws to manufacture rubber stamps, had previously existed for a number of years as a New Jersey corporation. The change was made as a matter of convenience.

=George A. Alden & Co. have removed from No. 170 Summer street to No. 60 Chauncy street, Boston, where they have elegantly appointed offices, arranged particularly with a view to handling their constantly increasing business.

=Wirt & Knox Manufacturing Co. (Philadelphia) report having closed a contract to supply their "Hump" swinging hose rack for all the buildings at the St. Louis World's Fair this year, for which purpose something more than 1000 racks will be required.

=C. J. Bailey & Co., No. 22 Boylston street, Boston, have enlarged their already extensive retail rubber goods store, adding a department for ladies' walking suits and skirts.

=The Paragon General Manufacturing and Trading Co., a New Jersey corporation, with \$50,000 capital authorized, is in the hands of a receiver—August Zeigruer, Jr., of Jersey City. The company was formed to make golf balls, and did turn out 300 dozen, but gave up business on these proving unsalable.

=The Hohmann & Maurer Manufacturing Co. (Rochester, New York), well known makers of high grade thermometers and other measuring instruments, have just issued a new catalogue which is replete with valuable and useful information, with particular reference to heating and ventilating; also mining, engineering, etc.

=The Franklin P. Shumway Co. (Boston), is a Massachusetts corporation, just formed, with \$30,000 capital, at No. 373 Washington street, to continue the advertising business which Mr. Shumway has built up during 27 years of personal endeavor in this field. Besides having a large office force, the new company will be capably represented by a number of experienced canvassers outside.

=The first meeting of the creditors of the Victor Rubber Co., in bankruptcy, whose affairs are reported in some detail on another page, will be held at Springfield, Ohio, on June 3. Frank M. Krapp, referee in bankruptcy, announces that at such meeting an application for the sale of property of the bankrupt will be considered.

=The Gutta Percha and Rubber Manufacturing Co. of Toronto, Limited, whose premises were burned recently, have purchased the building and site on the southeast corner of Yonge and Wellington streets, Toronto, occupied formerly by the Royal Insurance Co., and will at once proceed to alter and improve the same to adapt them to their requirements as an office and warehouse building.

=The regular semi annual dividend of \$3 per share has been declared on the preferred stock of the Boston Woven Hose and Rubber Co., payable June 15.

=Captain John M. Connery, who recently resigned as paymaster at the factory of the National India Rubber Co. (Bristol, Rhode Island), to accept a position in another line of business, was presented on May 22, by the employés of the company, with a gold watch and a purse containing \$100.

=The resignation is announced of John S. McClurg, superintendent of the Republic Rubber Co. (Youngstown, Ohio), to take effect on July 1.

PERSONAL MENTION.

THE Hon. L. D. Apsley, of the Apsley Rubber Co., at the recent Republican convention in the fourth Massachusetts district, was elected delegate to the forthcoming Republican national convention at Chicago, by acclamation.

=Mr. C. Edward Murray, of Trenton, treasurer of the Empire Rubber Manufacturing Co., and of the Crescent Belting and Packing Co., at the Republican convention in the Fourth congressional district of New Jersey, on May 10, was elected delegate to the Republican national convention at Chicago.

=Mr. William T. Rodenbach was elected warden of the borough of Naugatuck, Connecticut, at the annual election on May 2. He has been for 16 years a member of the local school board and is now president of that body. Mr. Rodenbach, who is a native of New York city, is treasurer of the Goodyear's Metallic Rubber Shoe Co., general manager of the United States Rubber Co.'s rubber reclaiming plant at Naugatuck, president of the Naugatuck Manufacturing Co., and a trustee of the Naugatuck Savings Bank. The office of warden was filled previously at one time by Mr. F. F. Shaffer, superintendent of the Goodyear's India Rubber Glove Manufacturing Co.

=Mr. H. Stuart Hotchkiss, vice president and secretary of L. Candee & Co. (New Haven, Connecticut), lately returned from a trip to Mexico.

=Mr. Kimball J. Fenno, formerly assistant treasurer of the Boston Woven Hose and Rubber Co., is devoting himself to public accounting, with offices at No. 53 State street, Boston.

=Mr. Ralph W. Stewart, Jr., of the Scottish Central Rubber Co. (Dunfermline, Scotland), who is on a visit to the United States, during which he will see the Louisiana Purchase Exposition, recently favored THE INDIA RUBBER WORLD offices with a call.

=Mr. Frederick Thomas Ryder, secretary of the Boston Rubber Shoe Co., was married on the evening of Tuesday, May 24, to Miss Blanch Bates Wise, of Maplewood, Massachusetts. The wedding reception, which was held at the residence of the parents of the bride, Mr. and Mrs. Daniel Parker Wise, was a most brilliant affair and attended by a host of friends of both bride and groom.

=Mr. and Mrs. Edward Clark, of Natick, Massachusetts, have issued invitations for the marriage of their daughter Helen Isabel, to Mr. Frank Blake Hopewell, on June 1, at 7.30 P.M. Mr. Hopewell is connected with L. C. Chase & Co. (Boston).

=Mr. G. Edward Habich, salesman for George A. Alden & Co. (Boston) was married April 30 to Miss Margaret K. Shepard.

=Mr. W. A. Joubert, who was formerly interested in Balata in the Guianas, has associated himself with the Tulija River Plantation Co., of Boston, whose plantation is in the state of Chiapas, Mexico.

=Benjamin B. Converse, long identified prominently with the leather trade of Boston, died at his home in Newton, Massachusetts, on May 14, in his eighty-first year. For 40 years he

was president or director, at different times, of two Boston banks. He retired from business two years ago. He was related to the Hon. Elisha S. Converse, both having been grandsons of Deacon Jonathan Converse, of Thompson, Connecticut [born 1760—died 1845].

=Alfred H. Smith, importer of toilet brushes, No. 84 Chambers street, New York, died of pneumonia in Paris, on May 9, in his sixty-first year. He was a native of Bridgeport, Connecticut, and had been engaged in the same business for 40 years. The house will be continued under the old name by a son, Roland H. Smith. The house has the American agency for the Russian rubber sponges.

=According to a Brussels newspaper, "*Le Colonel Samuel*, président de la U. S. Rubber Cie.," declares the sales of rubber shoes in this country last year to have realized "plus 150,000,000 de francs."

PARA RUBBER PLANTATION CO.

THE International Rubber and Trading Co., which formerly was the Para Rubber Plantation Co., has undergone another reorganization. Mr. John Cudahy, of Chicago, has been succeeded as president by Mr. Harvey Harding, of the banking firm of Bradstreet, Harding & Co., of Boston. A visit to the office of the company, at No. 52 Broadway, New York, found Mr. W. H. F. Holmes in charge, with the designation of managing director. Mr. Holmes said to THE INDIA RUBBER WORLD's representative:

"Mr. Cudahy has resigned the presidency because he has not the time to give the attention necessary to the affairs of the company. He is still a director, and has not disposed of a dollar's worth of his interest. Mr. Harding, our new president, belongs to a banking house in Boston, which will be the fiscal agents of the company. The company has had many rebuffs and setbacks, but we believe we have a good proposition. We have a clear title to all the property along the Casiquiare river, and are persuaded that there are millions of rubber trees on it. The difficulties, we appreciate, relate to labor and transportation. In regard to the former we have experienced many delays. We had once organized a band of 300 or 400 laborers when the revolutionary troubles in Venezuela scattered them. As long as their is disturbance and war there these men are liable to be impressed as soldiers. We hope, however, to have a force ready in the near future to begin the business of opening rubber camps and marking out *estradas*. As for transportation, we do not feel that it will be an insurmountable obstacle when once we can arrange for gathering the rubber. The Casiquiare is navigable for small, light draught craft during the entire year, and so is the greater part of the Orinoco. One of our agents, who started from Manáos, went up the Negro, through the Casiquiare, and down the Orinoco, reports that there is rubber on the ground in great quantities, and that the way is open."

"Are you still selling stock?" Mr. Holmes was asked.

"We are not selling stock right now, but after a while we will offer some to the American public. I have placed a considerable amount of the stock abroad, in France mostly. In fact I have been abroad on this business for the greater part of two years."

Mr. John Cudahy, when seen by THE INDIA RUBBER WORLD's Chicago correspondent, said he had no statement to make regarding the change in the company's affairs, but that he might have after getting information expected from the East. Mr. Cudahy states that he has disposed of the greater part of his interests in the company. He resigned the presidency the latter part of January, but it was not accepted at the time and the matter was kept quiet.

HIDALGO—A NEW PLANTING COMPANY.

THE Hidalgo Plantation and Commercial Co. was incorporated March 4, 1904, under the laws of California, to engage in the cultivation of India-rubber and coffee in the department of Soconusco, state of Chiapas, Mexico. The officers and directors are: John W. Butler, president; O. H. Harrison, vice president; H. W. Smith, secretary; E. Noel, assistant secretary; Donald J. McKay, Walter Cox, F. H. Abbott. The head office is at No. 713 Market street, San Francisco.

Readers of THE INDIA RUBBER WORLD are familiar with the names of Messrs. Butler and Harrison, in connection with La Zacualpa Rubber Plantation Co. The development of La Zacualpa plantation now having progressed to a point where further capital is not required, the same interests have formed the Hidalgo company, for the development of additional lands

adjoining Zacualpa. The area involved is 6000 acres, including the coffee estates (now producing) known as the "Harrison plantations," the principal one of which is known locally by the name "Hidalgo." It is stated that 1300 acres of coffee are now in full bearing.

The new company will establish the "Juilapa" rubber plantation, eventually to comprise 2500 acres, on the main road from Tapachula to Mexico City. For development purposes the Hidalgo company offer for sale 2500 shares, at \$400 each, on terms which will be furnished on application.

AT the annual meeting of the Russian-French Rubber Works "Provodnik" at Riga, Russia, on March 25, the report showed a profit of 910,185 rubles on a transaction of 12,375,896 rubles [= \$6,373,586.44]. After providing for the various funds, a dividend of 15 rubles per share was declared.

REVIEW OF THE CRUDE RUBBER MARKET.

THE market remains firm, with continued high prices, the month having shown advances on many grades. Stocks continue short, and the practical close of the season for Pará arrivals renders impossible the accumulation of new supplies from that source for some time to come.

The most striking fact in connection with the crude rubber movement of late has been the increasing rate of imports by the United States. The figures herewith, derived from the customs returns, indicate the net imports into this country during the first nine months of the last six fiscal years; that is, what remained for consumption after deducting exports of rubber from the total quantities imported:

	Pounds.
Nine months ending March 31, 1899.....	39,522,946
Nine months ending March 31, 1900.....	36,553,508
Nine months ending March 31, 1901.....	36,894,178
Nine months ending March 31, 1902.....	34,787,735
Nine months ending March 31, 1903.....	37,830,342
Nine months ending March 31, 1904.....	44,701,341

The significance of the figures for the last nine months will be appreciated by comparing them with the average for the five preceding periods. That average was 37,117,742 pounds—an amount exceeded since July 1, 1903, by 20.43 per cent. Ordinarily increased imports are to be accounted for (1) by increased consumption, or (2) by an accumulation of market stocks. No unusually large stocks are now visible, however, and, with the exception of the rubber footwear branch, there is reason to believe that consumption has not been materially heavier during the nine months under review than in former seasons.

But the latest report of the United States Rubber Co., printed in full elsewhere in this Journal, points to another explanation of the large imports of rubber, and one which suggests the adoption of a new policy by large manufacturers—that "of purchasing, so far as possible, crude rubber and other materials sufficient to cover all goods that are sold in advance at fixed prices." The report shows for the United States Rubber Co. a decrease in cash, as compared with last year, of \$3,162,978.29, and an increase in inventories, including raw materials, of \$5,321,093.10, which changes are stated to be due in part to the new policy of the company. Moreover, these purchases are stated to have been made "at prices materially below the present market prices."

The comment of some people in the trade doubtless will be that "present prices" are largely due to the storing up of rubber for consumption, in advance of normal factory requirements, which policy, by the way, is not now confined to the

United States Rubber Co. The question is now being asked, what will be the course of prices when these large extra purchases have been completed, so far as this year is concerned, and new arrivals are required only for the normal factory demand in the general lines. Will there be a decline? To answer this, it would be necessary to know how much more rubber the large manufacturing companies have yet to arrive to complete their advance orders, and also how large the total production of rubber is to be.

The "crop" of Pará rubber this year, it seems, will be somewhat larger than in any previous year. The latest available figures permit this comparison to be made—beginning with July 1 in each year:

	1900-01.	1901-02.	1902-03.	1903-04.
To December 31..... tons	11,300	13,630	12,250	13,470
To May 31	26,300	28,750	28,090	32,835
To June 30.....	27,600	30,000	29,850	

[a—To May 28, 1904.]

Meanwhile there is no increase in the production of other than Pará rubbers. In many districts there is an absolute decline. For instance, the arrivals of Congo sorts at Antwerp for some time past have declined as follows:

	Tons.
Ten months ending April 30, 1901.....	4343
Ten months ending April 30, 1902.....	4330
Ten months ending April 30, 1903.....	4103
Ten months ending April 30, 1904.....	4098

The present period of high prices has existed for an exceptionally long time—a condition which should stimulate the shipment of rubber, if the limit of production has not been reached. In this connection, it may be of interest to note the following figures, showing the average invoice price of all rubber imported into the United States during the first nine months of six fiscal years:

	Per Pound.
Nine months ending March 31, 1899.....	62.1 cents.
Nine months ending March 31, 1900.....	64.9 cents.
Nine months ending March 31, 1901.....	50.6 cents.
Nine months ending March 31, 1902.....	49.4 cents.
Nine months ending March 31, 1903.....	54.5 cents.
Nine months ending March 31, 1904.....	68.2 cents.

In regard to the financial situation, Albert B. Beers (broker in India-rubber, No. 68 William street, New York), advises us:

"During May the money market has been quiet and very easy, rubber paper being taken by both city and out-of-town banks at $4\frac{1}{2}$ @ 6 per cent., according to grade; during the last week of the month the demand decreased somewhat, and rates have hardened a little."

Following is a statement of prices of Pará grades, one year ago, one month ago, and on May 30—the current date:

PARÁ.	June 1, '03.	May 1, '04.	May 30
Islands, fine, new.....	87@83	108@109	109@110
Islands, fine, old.....	91@92	@	none here
Upriver, fine, new.....	91@92	111@112	113@114
Upriver, fine, old.....	97@98	112@113	114@115
Islands, coarse, new.....	56@57	64@ 65	64@ 65
Islands, coarse, old.....	@	@	none here
Upriver, coarse, new.....	72@73	86@ 87	88@ 89
Upriver, coarse, old.....	@	@	none here
Caucho (Peruvian) sheet.....	57@58	64@ 70	70@ 71
Caucho (Peruvian) ball.....	68@69	77@ 78	80@ 81

The market for other sorts in New York, changes in which have been about the same, is as follows:

AFRICAN.	CENTRALS.
Sierra Leone, 1st quality.....	Esmeralda, sausage.....
Massai, red.....	Guayaquil, strip.....
Benguella.....	Nicaragua, scrap.....
Cameron ball.....	Panama, slab.....
Accra flake.....	Mexican, scrap.....
Lopori ball, prime.....	Mexican, slab.....
Lopori strip, prime.....	Mangabeira, sheet.....
Ikelemba.....	Assam.....
Madagascar, pinky.....	Borneo.....

Late Pará cables quote:

	Per Kilo.	Per Kilo.
Islands, fine.....	68700	Upriver, fine.....
Islands, coarse.....	38400	Upriver, coarse.....
Exchange, 12½d.		

Last Manáos advices:

Upriver, fine.....	78375	Upriver, coarse.....	58475
Exchange, 12½d.			

NEW YORK RUBBER PRICES FOR MARCH (NEW RUBBER).

	1904.	1903.	1902.
Upriver, fine.....	1.06@1.12	90@93	72@76
Upriver, coarse.....	84@ 87	72@74	58@61
Islands, fine.....	1.03@1.08	86@90	70@73
Islands, coarse.....	66@ 70	55@58	46@48
Cametá, coarse.....	66@ 70	57@61	48@53

NEW YORK RUBBER PRICES FOR APRIL (NEW RUBBER).

	1904.	1903.	1902.
Upriver, fine.....	1.07@1.12	90@93	73@74
Upriver, coarse.....	84@ 88	72@74	59@60
Islands, fine.....	1.05@1.09	87@91	71@73
Islands, coarse.....	64@ 69	56@60	47@49
Cametá, coarse.....	64@ 69	61@63	53@54

Ceylon Rubber Exports.

The exports of crude rubber (the product of plantations) from Ceylon, from January 1 to April 18, 1904, were as follows:

To Great Britain.....	pounds 23,329
" Germany.....	2,756
" Belgium.....	100
" United States.....	63
Total.....	26,248
Total, same dates in 1903.....	12,452

Rubber Scrap Prices.

NEW YORK quotations—prices paid by consumers for carload lots—in cents per pound—show only a few changes, and these in the direction of a declining market:

Old Rubber Boots and Shoes—Domestic.....	6 @ 6½
Do —Foreign.....	5¼ @ 5¾
Pneumatic Bicycle Tires.....	4 @ 4½
Solid Rubber Wagon and Carriage Tires.....	7
White Trimmed Rubber.....	7½ @ 7¾
Heavy Black Rubber.....	4
Air Brake Hose.....	2¼ @ 2½
Fire and Large Hose.....	1¾ @ 1½
Garden Hose.....	1¾ @ 1½
Matting.....	¾ @ 1

Statistics of Para Rubber (Excluding Caucho).

	NEW YORK.			Total	Total	Total
	Fine and Medium.	Coarse.	1904.	1903.	1902.	1901.
Stocks, March 31.....	217	29	246	539	505	505
Arrivals, April.....	690	357	1047	1494	1483	1483
Aggregating.....	907	386	1293	2033	1988	1988
Deliveries, April.....	653	337	990	1478	1496	1496
Stocks, April 30.....	254	49	303	555	492	492

	PARÁ.			ENGLAND.		
	1904.	1903.	1902.	1904.	1903.	1902.
Stocks, March 31.....	605	255	560	480	1550	1825
Arrivals, April.....	1460	2510	2655	590	1087	2145
Aggregating.....	2065	2765	3215	1070	2637	3970
Deliveries, April.....	1955	2615	975	575	962	3800
Stocks, April 30.....	110	150	2240	495	1675	170

	1904.	1903.	1902.
World's visible supply, April 30.....	1981	3691	4196
Para receipts, July 1 to April 30.....	23,805	23,756	23,599
Para receipts of Caucho, same dates.....	3729	3104	2736
Afloat from Pará to United States, April 30.....	573	731	674
Afloat from Pará to Europe, April 30.....	500	580	620

Antwerp.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The result of our inscription sale on May 10 was satisfactory, as 367 tons found buyers, out of 428 tons offered. After the sale 39 tons more were taken. The prices for fine grades show an advance of 1@2 per cent. over valuations based on the prices of the preceding month, whereas lots in ill condition sold at 20@30 centimes per kilogram below valuation. The average results may be calculated at 1@1½ per cent. advance. The principal lot sold as follows:

	Valuation.	Sold at.
32 tons Lopori I.....	francs 10.75	10.80@10.90
30 " Lopori II (sticky).....	8.75	8.40@ 8.50
10 " Aruwimi I.....	10.	10.25
20 " Aruwimi II.....	9.50	9.55
22 " Lake Leopold I.....	10.60	10.30@10.55
20 " Lake Leopold II.....	8.50	8.75@ 8.95
12 " Mongalla.....	10.15	10. @10.20
13 " Red Katanga.....	10.20	10.25
12 " Equateur I.....	11.	11.15

The next monthly sale will take place on June 7 when about 300 tons will be catalogued. Actual stocks here are about 390 tons.

C. SCHMID & CO., SUCCESSEURS.

Antwerp, May 14, 1904.

ANTWERP RUBBER STATISTICS FOR APRIL.

DETAILS.	1904.	1903.	1902.	1901.	1900.
Stocks, Mar. 31.....	700,735	271,884	841,678	843,834	735,060
Arrivals in April.....	179,098	605,743	307,834	613,368	507,911
Congo sorts.....	120,240	556,542	261,739	548,563	423,274
Other sorts.....	58,858	49,201	46,095	64,805	84,637
Aggregating.....	879,833	877,627	1,149,512	1,457,202	1,242,971
Sales in April.....	438,212	388,828	648,848	643,384	421,151
Stocks, April 30.....	441,621	488,799	500,664	813,818	821,820
Arrivals since Jan. 1.....	1,816,900	1,751,871	1,809,323	2,186,678	2,284,225
Congo sorts.....	1,443,046	1,365,539	1,698,426	1,951,866	1,809,270
Other sorts.....	373,854	386,332	110,897	234,812	384,955
Sales since Jan. 1.....	1,986,179	1,921,177	1,723,368	1,986,899	1,754,396

RUBBER ARRIVALS AT ANTWERP.

MAY 4.—By the <i>Albertville</i> , from the Congo:	
Bunge & Co.....(Société Générale Africaine) kilos	189,000
Do.....Comité Speciale Katanga)	7,000
Do.....(Société "La Kotto")	1,500
Do.....(Sultanats du Haut Obangi)	6,000
M. S. Cols.....	1,000
Do.....	1,000

Société Coloniale Anversoise	(Sud Kamerun)	7,000	
Charles Dethier	(La Haut Sangha)	6,000	
Société Coloniale Anversoise	(Cie. de Lomami)	30,000	
Comptoir des Produits Coloniaux (Messageries fluviales du Congo)		1,500	
W. Mallinckrodt & Co.	(Alimaïenne)	3,100	
Société Coloniale Anversoise (Belge du Haut Congo)		500	
L. & W. Van de Velde	(Cie. du Kasai)	80,000	333,600

Bordeaux.

PRICES MAY 2—FRANCS PER KILOGRAM.

Conakry niggers, red. 10 50@10.75	Lahou niggers..... 9. @ 9.15
Soudan niggers 9.95@10.25	Madagascar:
Soudan twists..... 9.40@ 9.65	Tamatave..... 8.25@ 8.90
Cassamance, A..... 7.40@ 7.75	Majunga..... 7. @ 7.70
Cassamance, A M..... 6.70@ 6.80	Niggers..... 4.50@ 5.25
Lahou cakes 8.35@ 8.55	New Caledonian..... 8.50@ 9.25

[10 francs per Kilo=87½ cents per Pound.]

STOCKS SAME DATE.

Soudan twists.....kilos. 4000	Lahou .....kilos 1900
Ivory Coast..... 500	Java and Sumatra..... 1800
Senegal..... 800	Balata..... 2000
Cassamance..... 800	
Congo..... 1300	Total.....kilos 13,100

ARRIVALS DURING APRIL.

Soudan twists.....kilos. 54,358	Congo.....kilos. 3,300
Soudan niggers..... 20,280	Cassamance..... 8,930
Java and Sumatra..... 1,900	Rufisque..... 860
Conakry niggers..... 19,900	Balata..... 100
Lahou twists..... 11,250	
Lahou niggers..... 650	Total .....kilos. 121,528

Arrivals January 1 to April 30, 1904. 437,561 kilos

Arrivals same months, 1903..... 376,792 "

R. HENRY.

London.

EDWARD TILL & Co. [May 2] report stocks:

	1904.	1903.	1902.
Pará sorts.....	—	—	—
Borneo.....	9	13	126
Assam and Rangoon.....	5	4	35
Other sorts.....	225	192	458
Total.....	239	209	619
LIVERPOOL { Pará.....	495	1681	2245
Other sorts.....	910	649	924
Total, United Kingdom.....	1644	2539	3788
Total, April 1.....	1367	2525	3326

PRICES PAID DURING APRIL.

	1904.	1903.	1902.
Pará fine, hard.	4/ 6¼@4/ 9	3/ 9½@3/10¼	3/ @3/1¼
Do soft.	4/ 5¼@4/ 7¼	3/10 @3/10¼	3/0½@3/1¼
Negroheads, scrappy . . .	3/ 6¼@3/ 8¼	3/ 0½@3/ 1½	2/6 @2/6¼
Do Cameté.	2/10 @2/11¼	2/ 7¼@2/ 9	2/2¼@2/3¼
Bolivian	4/ 7 @4/ 9	.....	3/2

MAY 13.—The market for Pará has been firm, and a good business has been done at dearer rates. Fine hard on the spot and distant delivery has been sold at 4s. 10d. @ 4s. 10½d., and fine soft cure, which is scarce, at 4s. 9d. @ 4s. 9½d. for near delivery. Negroheads: Manáos scrappy in good demand, with fair sales on spot and forward at 3s. 9d. @ 3s. 9½d. Cameté and Islands scarce; the former sold at 2s. 11d. and the latter quoted 2s. 10½d. Peruvian in good demand and dearer; fair sales of ball, spot and near, 3s. 5d. and July-August delivery 3s. 5½d. Mollendo dearer; sales fine at 4s. 8½d. @ 4s. 9d. spot and 4s. 8½d. forward.

At to-day's auction Colombian good clean sheet sold at 3s. 3¼d.; rather mixed, 3s. 1d. @ 3s. 1½d.; fair gray sheet, 3s. 1¼d. Central American: Good clean black roll and brown scrap, 3s. 4½d. Mangabeira: Fair to good Rio sheet 2s. 8½d. Manicoba: Good clean Bahia, 3s. 0¼d. Madagascar: Majunga, 2s. 4¼d. @ 2s. 5d. Mozambique: Fair Lamu ball, 3s. 6¼d.; Uganda strips, 3s. 4½d.

Ceylon.—Thirty cases offered and sold, fine thin biscuits from Pará seed at 5s. @ 5s. 2½d. [= \$1.26¼]; good to fine clean scrap at 4s. 6d. @ 4s. 7d. = Straits Settlements: Fine packages offered and sold, fine thin large biscuits from Pará seed at 5s. 3½d.; scrap at 4s. 1d.

Liverpool.

WILLIAM WRIGHT & Co. report [May 2]:

Fine Pará.—At the beginning of the month [April] there was a sharp decline of 1½d. per pound, but since then prices have advanced 2½d. per pound, closing at 4s. 9d. for hard and 4s. 8d. for soft. This reaction has been partly caused by "bear covering," and also by a reduced estimate of receipts. The demand on the whole has been dull, doubtless due to the high prices ruling, which are higher than they have been for twenty years. Manufacturers continue to buy sparingly, which is the only safe policy to pursue. Stocks are light (although including Continental ports they were under-declared last month by about 400 tons) and are well held. For the present we cannot see any chance of a serious break in prices.

Rubber Receipts at Manaos.

DURING April and the first ten months of the crop season for three years [courtesy of Messrs. Witt & Co.]:

FROM—	APRIL.			JULY-APRIL.		
	1904.	1903.	1902.	1904.	1903.	1902.
Rio Purús—Acre..... <i>tons</i>	360	452	399	5525	5492	6313
Rio Madeira.....	84	86	115	2528	2160	2694
Rio Juruá.....	348	238	257	3459	3393	3451
Rio Javary—Iquitos.....	23	58	3	2206	1473	1213
Rio Solimões.....	73	37	58	808	1305	1508
Rio Negro.....	38	96	39	422	635	356
Total.....	926	967	871	14,948	14,458	15,535
Caucho.....	408	619	394	3168	2758	2787
Total.....	1334	1586	1265	18,116	17,216	18,322

Gutta-Percha.

WEISS & Co. (Rotterdam) report exports from Singapore for the first three months of five years:

Tons...	1900.	1901.	1902.	1903.	1904.
	1627	1443	1180	883	607

IMPORTS FROM PARA AT NEW YORK.

[The Figures Indicate Weights in Pounds.]

IMPORTERS.	Fine.	Medium.	Coarse.	Cauchó.	Total.
United States Rubber Co.	117,800	14,400	47,500	61,400=	241,100
Poel & Arnold.....	46,000	17,900	38,600	.....	102,500
New York Commercial Co.	44,200	7,400	44,900	.....	96,500
A. T. Morse & Co.....	27,000	18,500	18,100	1,300=	64,900
Lawrence Johnson & Co.	18,800	14,700	10,000	19,100=	62,600
William Wright & Co....	25,000	2,200	14,800	2,900=	44,900
Edmund Reeks & Co....	.....	.....	14,700=	.....	14,700
G. Amsinck & Co.	6,300	.....	800	.....	7,100
Czarnikow, McDougal & Co.	19,400	4,000	6'0	.....	24,000
Lionel Hagenaers & Co.	3,700	.....	1,600	.....	5,300
Hagemeyer & Brunn....	3,400	700	200	.....	4,300
Total.....	311,600	79,800	177,100	99,400=	667,900

MAY 14.—By the steamer *Cearense*, from Manáos and Pará:

United States Rubber Co.	74,700	17,200	37,500	88,300=	217,700
A. T. Morse & Co.	111,600	11,200	67,400	.....	190,200
Poel & Arnold.....	83,800	12,500	61,700	800=	158,800
William Wright & Co....	28,300	3,000	28,900	.....	60,700
New York Commercial Co.	11,100	2,500	18,100	.....	31,700
Hagemeyer & Brunn....	7,200	1,000	2,200	900=	11,300
Czarnikow, McDougal & Co.	6,800	3,200	300	.....	10,300
Edmund Reeks & Co....	800	.....	.....	6,800=	7,600
Lionel Hagenaers & Co..	4,100	.....	2,400	.....	6,500
Total	328,900	50,600	213,500	96,500=	694,800

MAY 24.—By the steamer *Gregory*, from Manáos and Pará:

Poel & Arnold.....	61,300	14,400	52,400	34,100=	162,200
A. T. Morse & Co.....	31,400	6,900	61,700	52,000=	152,000
United States Rubber Co.	45,300	10,300	13,700	600=	69,900
William Wright & Co....	16,800	3,600	10,900	.....	31,300
New York Commercial Co.	10,400	2,200	15,300	1,700=	29,600
Thomsen & Co.....	4,400	.....	2,400	.....	6,800
L. Hagenaers & Co.....	3,900	.....	1,400	.....	5,300
Hagemeyer & Brunn....	2,400	1,000	1,700	.....	5,100
Total.	175,900	38,400	159,500	88,400=	462,200

[NOTE.—The steamer *Dominic*, from Pará, due at New York on June 4, carries 100 tons of Rubber and 45 tons of Cauchó.]

PARA RUBBER VIA EUROPE.

APR. 25.—By the <i>Etruria</i> =Liverpool:	
Poel & Arnold (Coarse).....	22,500
APR. 26.—By the <i>Finland</i> =Antwerp:	
George A. Alden & Co. (Fine).....	13,500
MAY 11.—By the <i>Kronland</i> =Antwerp:	
A. T. Morse & Co. (Fine).....	11,000
Poel & Arnold (Coarse).....	7,000
MAY 11.—By the <i>Seurance</i> =Mollendo:	
Chicago Bolivian Rubber Co. (Fine).....	2,000
MAY 13.—By the <i>Cedric</i> =Liverpool:	
Poel & Arnold (Coarse).....	13,500
MAY 14.—By the <i>Campania</i> =Liverpool:	
Poel & Arnold (Cauché).....	7,500
MAY 16.—By the <i>Minneapolis</i> =London:	
Rubber Trading Co. (Coarse).....	5,500
MAY 23.—By the <i>Etruria</i> =Liverpool:	
Poel & Arnold (Cauché).....	56,000
George A. Alden & Co. (Fine).....	11,500
MAY 24.—By the <i>Finland</i> =Antwerp:	
George A. Alden & Co. (Fine).....	13,500
George A. Alden & Co. (Coarse).....	2,200

Isaac Brandon & Bros.....	500
R. G. Barthold.....	300
Silva, Bussellus & Co.....	300
MAY 5.—By the <i>Virgil</i> =Bahia:	
J. H. Rossbach & Bros.....	35,000
Hirsch & Kaiser.....	8,500
MAY 9.—By the <i>Vigilancia</i> =Mexico:	
E. Steiger & Co.....	3,000
Harburger & Stack.....	3,500
Fred. Probst & Co.....	3,500
H. Marquardt & Co.....	2,500
E. N. Tibbals & Co.....	1,000
Graham, Hinkley & Co.....	1,000
James Bondy Sons.....	500
Isaac Kuble & Co.....	300
MAY 9.—By the <i>Protea</i> =New Orleans:	
A. T. Morse & Co.....	12,000
G. Amsinck & Co.....	3,500
Eggers & Heinlein.....	1,100
MAY 10.—By the <i>Alleghany</i> =Greystown, etc.:	
A. D. Straus & Co.....	8,000
E. B. Strout.....	1,200
Andreas & Co.....	1,000
Isaac Brandon & Bros.....	1,400
American Trading Co.....	1,200
Graham Hinkley & Co.....	700
Roldan & Van Sickle.....	700
D. A. De Lima & Co.....	300
MAY 11.—By the <i>Seurance</i> =Colon:	
Hirzel, Feltman & Co.....	17,800
Alberto Dumarest.....	2,600
A. Santos & Co.....	2,500
Roldan & Van Sickle.....	1,500
G. Amsinck & Co.....	1,100
Livingstone & Co.....	1,000
Meyer Hecht.....	1,000
A. Rosenthal & Sons.....	900
American Trading Co.....	600
Kunhardt & Co.....	500
Smithers, Nordenholt & Co.....	500
R. G. Barthold.....	400
W. R. Grace & Co.....	500
A. N. Rotholz.....	300
MAY 13.—By the <i>Cedric</i> =Liverpool:	
Poel & Arnold.....	5,700
MAY 13.—By the <i>Patricia</i> =Hamburg:	
Poel & Arnold.....	3,500
MAY 16.—By the <i>Carib</i> =Truxillo, etc.:	
Eggers & Heinlein.....	9,000
A. S. Lascillas & Co.....	300
H. W. Peabody & Co.....	300
MAY 16.—By the <i>Merchant Prince</i> =Bahia:	
Hirsch & Kaiser.....	34,000
MAY 16.—By the <i>Nigara</i> =Mexico:	
H. Marquardt & Co.....	1,500
Samuels & Cummings.....	700
Graham, Hinkley & Co.....	500
American Trading Co.....	500
MAY 18.—By the <i>Alliance</i> =Colon:	
Meyer Hecht.....	6,500
Hirzel, Feltman & Co.....	6,400
G. Amsinck & Co.....	2,000
Isaac Brandon & Bros.....	2,300
Jaquin Ferro.....	1,500
Isaac Kuble & Co.....	1,000
Eggers & Heinlein.....	900
Kunhardt & Co.....	800
Roldan & Van Sickle.....	300
D. A. De Lima & Co.....	200
C. Wessels & Co.....	300
MAY 20.—By the <i>El Mar</i> =New Orleans:	
A. T. Morse & Co.....	3,500
Manhattan Rubber Mfg. Co.....	1,000
A. N. Rotholz.....	1,500
MAY 21.—By the <i>Tennison</i> =Bahia:	
J. H. Rossbach & Bros.....	40,000
A. D. Hitz & Co.....	6,700
Eggers & Heinlein.....	2,000

MAY 2.—By the <i>Bulgaria</i> =Hamburg:	
A. T. Morse & Co.....	104,000
Poel & Arnold.....	3,000
MAY 2.—By the <i>Armenian</i> =Liverpool:	
George A. Alden & Co.....	66,000
Henry A. Gould Co.....	2,000
MAY 3.—By the <i>Vaderland</i> =Antwerp:	
George A. Alden & Co.....	120,000
Rubber Trading Co.....	32,000
A. T. Morse & Co.....	20,000
Robinson & Tallman.....	11,000
Joseph Cantor.....	7,000
Poel & Arnold.....	6,000
MAY 5.—By the <i>Teutonic</i> =Liverpool:	
United States Rubber Co.....	34,000
George A. Alden & Co.....	11,500
A. T. Morse & Co.....	4,000
MAY 9.—By the <i>Umbria</i> =Liverpool:	
A. T. Morse & Co.....	22,000
United States Rubber Co.....	9,000
MAY 13.—By the <i>Georgia</i> =Liverpool:	
A. T. Morse & Co.....	12,000
MAY 10.—By the <i>Fricka</i> =Bordeaux:	
George A. Alden & Co.....	18,000
A. T. Morse & Co.....	15,000
MAY 11.—By the <i>Kronland</i> =Antwerp:	
Poel & Arnold.....	23,000
Rubber Trading Co.....	15,000
A. T. Morse & Co.....	10,000
MAY 13.—By the <i>Cedric</i> =Liverpool:	
Poel & Arnold.....	12,000
A. T. Morse & Co.....	9,000
Earle Bros.....	1,500
MAY 13.—By the <i>Patricia</i> =Hamburg:	
A. T. Morse & Co.....	20,000
Poel & Arnold.....	5,000
George A. Alden & Co.....	6,000
MAY 16.—By the <i>Philadelphia</i> =London:	
George A. Alden & Co.....	7,000
United States Rubber Co.....	7,500
MAY 17.—By the <i>Ryndam</i> =Rotterdam:	
Joseph Cantor.....	7,000
MAY 19.—By the <i>Majestic</i> =Liverpool:	
United States Rubber Co.....	69,000
Poel & Arnold.....	2,500
George A. Alden & Co.....	4,000
MAY 23.—By the <i>Arabic</i> =Liverpool:	
A. T. Morse & Co.....	13,500

OTHER ARRIVALS AT NEW YORK

CENTRALS.

APR. 25.—By the <i>Cevie</i> =Liverpool:	
J. H. Rossbach & Bros.....	17,300
APR. 25.—By the <i>Montezuma</i> =Mexico:	
Harburger & Stack.....	6,700
H. Marquardt & Co.....	3,500
E. N. Tibbals & Co.....	1,200
L. N. Chemedin & Co.....	1,300
E. Steiger & Co.....	1,000
James Bondy Sons.....	300
For Hamburg.....	9,500
APR. 25.—By the <i>Etruria</i> =Liverpool:	
Poel & Arnold.....	15,000
APR. 26.—By the <i>Altai</i> =Greystown, etc.:	
E. B. Strout.....	3,300
G. Amsinck & Co.....	3,200
Isaac Brandon & Bros.....	800
C. Wessels & Co.....	700
Roldan & Van Sickle.....	500
D. A. De Lima & Co.....	600
Kunhardt & Co.....	1,500
APR. 30.—By the <i>Lucania</i> =Liverpool:	
Hirsch & Kaiser.....	15,500
J. H. Rossbach & Bros.....	13,500
APR. 27.—By the <i>Yucatan</i> =Colon:	
Meyer Hecht.....	10,500
Hirzel, Feltman & Co.....	5,500
Piza Nephews & Co.....	5,000
Alberto Dumarest.....	1,300
A. Santos & Co.....	2,400
Lawrence Johnson & Co.....	1,800
Roldan & Van Sickle.....	1,600
Isaac Brandon & Bros.....	1,600
A. Rosenthal & Sons.....	1,200
G. Amsinck & Co.....	2,300
W. Loalza & Co.....	1,000
Eggers & Heinlein.....	600
Livingstone & Co.....	500
Mecke & Co.....	200
APR. 30.—By the <i>Esperanza</i> =Mexico:	
E. Steiger & Co.....	3,000
H. Marquardt & Co.....	2,400
For Hamburg.....	4,500
For Liverpool.....	6,700
MAY 2.—By the <i>Seneca</i> =Mexico:	
H. Marquardt & Co.....	1,500
Graham, Hinkley & Co.....	700
Samuels & Cummings.....	500
For London, etc.....	11,200
MAY 2.—By the <i>Comus</i> =New Orleans:	
A. T. Morse & Co.....	4,500
Manhattan Rubber Mfg. Co.....	3,000
A. N. Rotholz.....	1,500
A. S. Lascillas & Co.....	500
MAY 4.—By the <i>City of Washington</i> =Colon:	
Hirzel, Feltman & Co.....	4,100
A. D. Straus & Co.....	3,800
G. Amsinck & Co.....	4,000
Kunhardt & Co.....	2,500
Lawrence Johnson & Co.....	2,000
American Trading Co.....	2,500
Meyer Hecht.....	2,300
Piza Nephews & Co.....	1,200
Livingstone & Co.....	1,600
Banco de Exportazos.....	1,300
Mecke & Co.....	900
C. Wessels & Co.....	700
Andreas & Co.....	500

APR. 25.—By the <i>St. Louis</i> =London:	
United States Rubber Co.....	18,000
APR. 25.—By the <i>Arabic</i> =Liverpool:	
George A. Alden & Co.....	22,000
Rubber Trading Co.....	11,000
APR. 25.—By the <i>Etruria</i> =Liverpool:	
United States Rubber Co.....	22,000
A. T. Morse & Co.....	11,000
Earle Brothers.....	1,000
APR. 26.—By the <i>Finland</i> =Antwerp:	
A. T. Morse & Co.....	80,000
Joseph Cantor.....	23,000
APR. 27.—By the <i>Oceanic</i> =Liverpool:	
United States Rubber Co.....	34,000
Poel & Arnold.....	11,000
A. T. Morse & Co.....	10,000
APR. 30.—By the <i>Lucania</i> =Liverpool:	
Poel & Arnold.....	20,000
A. T. Morse & Co.....	13,000

AFRICANS.

APR. 25.—By the <i>St. Louis</i> =London:	
United States Rubber Co.....	18,000
APR. 25.—By the <i>Arabic</i> =Liverpool:	
George A. Alden & Co.....	22,000
Rubber Trading Co.....	11,000
APR. 25.—By the <i>Etruria</i> =Liverpool:	
United States Rubber Co.....	22,000
A. T. Morse & Co.....	11,000
Earle Brothers.....	1,000
APR. 26.—By the <i>Finland</i> =Antwerp:	
A. T. Morse & Co.....	80,000
Joseph Cantor.....	23,000
APR. 27.—By the <i>Oceanic</i> =Liverpool:	
United States Rubber Co.....	34,000
Poel & Arnold.....	11,000
A. T. Morse & Co.....	10,000
APR. 30.—By the <i>Lucania</i> =Liverpool:	
Poel & Arnold.....	20,000
A. T. Morse & Co.....	13,000

EAST INDIAN.

MAY 2.—By the <i>Sagami</i> =Calcutta:	
J. H. Recknagel & Son.....	3,000
MAY 2.—By the <i>Bulgaria</i> =Hamburg:	
A. T. Morse & Co.....	2,000
MAY 9.—By the <i>Florida</i> =Calcutta:	
Rail Brothers.....	9,000
MAY 9.—By the <i>St. Paul</i> =London:	
Poel & Arnold.....	16,000
MAY 16.—By the <i>Philadelphia</i> =London:	
Poel & Arnold.....	15,000
MAY 16.—By the <i>Minneapolis</i> =London:	
Robert Branss & Co.....	28,000
Poel & Arnold.....	2,000
MAY 17.—By the <i>Swazi</i> =Calcutta:	
J. H. Recknagel & Son.....	7,000
MAY 21.—By the <i>St. Louis</i> =London:	
Poel & Arnold.....	9,000
MAY 23.—By the <i>Arabic</i> =Liverpool:	
Rubber Trading Co.....	8,500

GUTTA-PERCHA AND BALATA.

MAY 2.—By the <i>Bulgaria</i> =Hamburg:	
To order.....	13,500
George A. Alden & Co.....	3,000
MAY 10.—By the <i>Minnehaha</i> =London:	
To order.....	3,000
Kempshall Manufacturing Co.....	1,500
MAY 13.—By the <i>Patricia</i> =Hamburg:	
To order.....	22,500
BALATA.	
APR. 25.—By the <i>Caracas</i> =La Guayra:	
Kunhardt & Co.....	13,500
American Trading Co.....	1,500
MAY 2.—By the <i>Germanic</i> =London:	
Henry A. Gould Co.....	4,500
Mineralized Rubber Co.....	2,000

MAY 2.—By the <i>Parina</i> —Demerara:	
George A. Alden & Co.....	5,000
MAY 16.—By the <i>Philadelphia</i> —London:	
Henry A. Gould Co.....	7,000
Earle Brothers.....	2,000 9,000

CUSTOM HOUSE STATISTICS.

PORT OF NEW YORK—APRIL.

Imports:	POUNDS.	VALUE.
India-rubber.....	4,859,652	\$3,535,863
Gutta-percha.....	30,849	10,863
Gutta-jelutong (Fontianak) ...	876,813	26,206
Total.....	5,776,314	\$3,572,932

Exports:	
India-rubber.....	14,056
Reclaimed rubber.....	86,229
Rubber Scrap Imported.....	1,184,901

BOSTON ARRIVALS.

Imports:	POUNDS.
APR. 1.—By the <i>Lancastrian</i> —London:	
Poel & Arnold—African.....	2,265
APR. 12.—By the <i>Sachem</i> —Liverpool:	
George A. Alden & Co.—Central....	10,172
APR. 13.—By the <i>Anglian</i> —London:	
George A. Alden & Co.—Coarse Pará.	9,331

APR. 14.—By the <i>Sachem</i> —Liverpool:	
Poel & Arnold—African.....	5,000
APR. 18.—By the <i>Cymric</i> —Liverpool:	
George A. Alden & Co.—Central.....	1,181
APR. 20.—By the <i>Bethania</i> —Hamburg:	
George A. Alden & Co.....	8,805
APR. 21.—By the <i>Columbian</i> —London:	
George A. Alden & Co.—African.....	4,455
APR. 26.—By the <i>Sigamore</i> —Liverpool:	
Poel & Arnold—African.....	11,100
Total.....	52,309
[Value, \$37,592.]	

APRIL EXPORTS OF INDIA-RUBBER FROM PARA (IN KILOGRAMS).

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Cmok, Schrader & Co.....	24,779	3,545	99,136	385	127,845	51,850	6,630	35,449	35,597	129,526	257,371
Frank da Costa & Co.....	61,554	14,351	127,174	—	203,079	20,296	1,068	23,068	300	44,732	247,811
Adelbert H. Alden.....	46,380	10,643	48,821	1,451	107,295	14,590	2,440	10,100	15,122	42,252	149,547
J. Marques & Co.....	9,020	656	12,113	—	21,789	18,776	841	13,892	—	33,509	55,298
R. Suarez & Co.....	32,387	10,621	1,836	—	44,844	5,693	2,423	160	—	8,276	53,120
Neale & Staats.....	—	—	948	20,212	21,160	168	—	316	30,075	30,559	51,719
Singlehurst Brocklehurst & Co.	2,574	170	1,920	—	4,664	23,128	8,009	5,980	—	37,117	41,781
Kanthack & Co.....	20,767	10,501	5,015	—	36,283	4,573	—	—	—	—	40,856
Denis Crouau & Co.....	9,219	835	16,422	—	26,476	—	—	—	—	—	26,476
Pires, Teixeira & Co.....	7,564	—	3,988	—	11,552	—	—	—	—	—	11,552
B. A. Antunes & Co.....	2,933	1,530	3,705	390	8,558	—	—	—	—	—	8,558
Direct from Manaos.....	452,023	95,817	142,926	126,975	817,741	256,949	32,419	93,269	200,754	583,391	1,401,132
Direct from Iquitos.....	1,062	179	1,050	3,744	6,035	11,763	2,196	6,636	187,229	207,824	213,859
Total for April.....	670,262	148,848	465,051	153,157	1,437,321	407,786	56,026	188,870	469,077	1,121,759	2,559,080
Total July-March.....	6,510,699	1,338,468	4,194,448	636,173	12,679,788	6,878,741	843,997	2,206,420	2,269,878	12,199,036	24,878,824
TOTAL SINCE JULY 1, 1903	7,180,961	1,487,316	4,659,502	789,330	14,117,109	7,286,527	900,023	2,395,290	2,738,055	13,320,795	27,437,904

OFFICIAL STATISTICS OF CRUDE INDIA-RUBBER (IN POUNDS).

UNITED STATES.				GREAT BRITAIN.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
March, 1904.....	9,124,462	435,899	8,688,563	March, 1904.....	6,523,104	3,281,936	3,241,168
January-February.....	14,141,887	473,346	13,668,541	January-February.....	10,066,112	6,837,494	3,228,618
Three months, 1904.....	23,266,349	909,245	22,357,104	Three months, 1904.....	16,589,216	10,119,430	6,469,786
Three months, 1903.....	16,197,808	868,965	15,328,843	Three months, 1903.....	15,690,304	9,881,648	5,808,656
Three months, 1902.....	14,505,944	940,675	13,565,269	Three months, 1902.....	13,880,608	7,175,616	6,704,992
GERMANY.				ITALY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
March, 1904.....	3,044,360	1,116,060	1,928,300	March, 1904.....	127,380	3,520	123,860
January-February.....	6,144,820	2,033,680	4,111,140	January-February.....	320,100	22,440	297,660
Three months, 1904.....	9,189,180	3,149,740	6,039,440	Three months, 1904.....	447,480	25,960	421,520
Three months, 1903.....	9,451,640	3,483,260	5,968,380	Three months, 1903.....	341,220	25,960	315,260
Three months, 1902.....	7,036,700	4,682,020	4,354,680	Three months, 1902.....	370,260	42,460	327,800
FRANCE.*				AUSTRIA-HUNGARY.			
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.	MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.
March, 1904.....	2,409,880	1,536,040	873,840	March, 1904.....	233,860	7,260	226,600
January-February.....	3,561,800	2,288,220	1,273,580	January-February.....	535,480	3,080	532,400
Three months, 1904.....	5,971,680	3,824,260	2,147,420	Three months, 1904.....	769,340	10,340	759,000
Three months, 1903.....	3,837,680	2,101,880	1,735,800	Three months, 1903.....	742,660	8,800	733,860
Three months, 1902.....	5,305,300	2,030,160	3,275,140	Three months, 1902.....	642,620	660	641,960
BELGIUM.†							
MONTHS.	IMPORTS.	EXPORTS.	NET IMPORTS.				
March, 1904.....							
January-February.....							
Three months, 1904.....							
Three months, 1903.....	3,536,883	2,562,087	974,796				
Three months, 1902.....	4,355,109	2,299,453	2,055,656				

NOTE.—German statistics include Gutta-percha, Balata, old rubber, and substitutes. French, Austrian, and Italian figures include Gutta-percha. The exports from the United States embrace the supplies for Canada consumption.

* General Commerce.

† Special Commerce.

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